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THE EFFECT OF MERGERS AND ACQUISITIONS ANNOUNCEMENTS ON SHARE PRICES OF JSE LISTED COMPANIES

by

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(201107057)

MINOR DISSERTATION

submitted in partial fulfilment of the requirements for the degree

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in
FINANCE
in the
COLLEGE OF BUSINESS AND ECONOMICS
at the
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SUPERVISOR: Mr R van der WALT
CO-SUPERVISOR: Ms W MABUTO

2019
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Lastly, a special thank you to both my wonderful parents, Matutu Josephine Radebe and my late father Sydney Boy Radebe for a blessed life and for always being an inspiration to continuously learn.

“For I know the plans I have for you, declares the Lord, plans to prosper you and not to harm you, plans to give you hope and a future” (Jeremiah 29:11, The New King James Version).
Declaration of original work

I, Phehello Johannes Radebe declare that this minor dissertation is my own unaided work. Any assistance that I have received has been duly acknowledged in the minor dissertation. It is submitted in partial fulfilment of the requirements for the degree of MASTER OF COMMERCE in FINANCE at the University of Johannesburg. It has not been submitted before for any degree or examination at this or any other University.

___________________  __________________
Signature         Date
Abstract

The primary purpose of this study was to investigate the effect of Mergers and Acquisitions (M&A) announcements on bidding companies’ share prices that were listed on the Johannesburg Stock Exchange (JSE) for the period 1 January 2010 to 31 December 2017. The study applied the classical event study methodology using the Abnormal Returns (AR), Average Abnormal Returns (AAR), and Cumulative Average Abnormal Returns (CAAR) of the bidding company to measure the effect of the announcements.

The primary sample used in the study consisted of 38 bidding companies listed on the Johannesburg Stock Exchange with 76 observations in total. The sample was tested for any abnormal returns that arose pre-and-post the Mergers and Acquisitions announcement date using a 15-day event window period.

The study provided empirical evidence that there were significant negative abnormal returns attained during the 15 days (-7, 0, +7), where 0 denoted the announcement day. Mergers and Acquisitions announcements were used for the selected bidding companies listed on the Johannesburg Stock Exchange.

Key Words

Mergers and Acquisitions, Announcements, Abnormal Negative Returns, Abnormal Positive Returns, Event Date, Cumulative Average Abnormal Returns, Classical Event Study, Mergers and Acquisitions Announcements, Market Model, Information Content and Johannesburg Stock Exchange All Share Index.
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<th>Description</th>
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<tbody>
<tr>
<td>AAR</td>
<td>Average Abnormal Returns</td>
</tr>
<tr>
<td>ALSI</td>
<td>All Share Index</td>
</tr>
<tr>
<td>AltX</td>
<td>Alternative Public Equity Exchange</td>
</tr>
<tr>
<td>ANR</td>
<td>Abnormal Negative Returns</td>
</tr>
<tr>
<td>APR</td>
<td>Abnormal Positive Returns</td>
</tr>
<tr>
<td>AR</td>
<td>Abnormal Returns</td>
</tr>
<tr>
<td>CAAR</td>
<td>Cumulative Average Abnormal Returns</td>
</tr>
<tr>
<td>CAPM</td>
<td>Capital Asset Pricing Model</td>
</tr>
<tr>
<td>CRSP</td>
<td>Center for Research in Security Prices</td>
</tr>
<tr>
<td>DT</td>
<td>Dividend Tax</td>
</tr>
<tr>
<td>EMH</td>
<td>Efficient Market Hypothesis</td>
</tr>
<tr>
<td>H0</td>
<td>Null hypothesis</td>
</tr>
<tr>
<td>H1</td>
<td>Alternative Hypothesis</td>
</tr>
<tr>
<td>JSE</td>
<td>Johannesburg Stock Exchange</td>
</tr>
<tr>
<td>M&amp;A</td>
<td>Mergers and Acquisitions</td>
</tr>
<tr>
<td>NSE</td>
<td>Nairobi Stock Exchange</td>
</tr>
<tr>
<td>NYSE</td>
<td>New York Stock Exchange</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>Standard &amp; Poor's 500</td>
</tr>
<tr>
<td>SA</td>
<td>South Africa</td>
</tr>
<tr>
<td>SAREC</td>
<td>School of Accountancy Research Ethics Committee</td>
</tr>
<tr>
<td>STC</td>
<td>Secondary Tax on Companies</td>
</tr>
<tr>
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1 CONTEXTUALISATION

1.1 INTRODUCTION AND BACKGROUND

Companies undertake Mergers and Acquisitions with the intention of maximising and creating value through efficiencies, reduction of overheads with economies of scale, and increased product offerings. Mergers and Acquisitions can be critical to a company as these directly affect the value of both the bidding and targeted company.

The pre-and-post effects of Mergers and Acquisitions are considered to be material in nature and directly affect the price for both the bidder and targeted company. This study assumed that the acquiring company was listed on the Johannesburg Stock Exchange. Furthermore, the study would focus on the markets’ reaction to Mergers and Acquisitions announcements that were approved by the South African Competition Authority between 1 January 2010 and 31 December 2017.

In an efficient market, takeover profits and losses from transferring ownership of the targeted company’s assets to the bidder will influence the price reactions to the announcements. If the market makers had a perception that there would be an incremental benefit between a bidding and targeted company, the expectation to realise gains or losses may not happen as the returns would already be priced before the Mergers and Acquisitions transaction occurred (Fama, 1965).

The Efficient Market Hypothesis (EMH) states that the current share price of the company would reflect all the information about the value of the company, and an arbitrage opportunity did not exist (Fama, 1965). However, the Random Walk Hypothesis states that the past cannot be used to ascertain the future, therefore, share price movements cannot be predicted (Kendall, 1953).

Mergers and Acquisitions have an integral role in the growth and development of an economy and thus there is an expectation that Mergers and Acquisitions would continue to increase in both developed and developing markets. The latter argument of the effects of Mergers and Acquisitions announcements was supported by Dichev and Piotroski (2001) who assessed the impact of changes in the credit rating on the bond and stock markets. The results in the event of a ratings downgrade, affected the stock market returns as well as the reaction of the market.
Furthermore, Chen, Chou and Lee (2011) conducted research on overnight and daytime Mergers and Acquisitions announcements. Their research revealed that overnight Mergers and Acquisitions announcements that were cash in nature, tended to earn significant positive abnormal returns. However, this did not hold true for daytime Mergers and Acquisitions announcements (Chen et al., 2011).

The remainder of the chapter is presented as follows: Section 1.2 covers the overview of Mergers and Acquisitions, section 1.3 deals with the role of the competition tribunal of South Africa, section 1.4 will elaborate on the trends in international Mergers and Acquisitions, and section 1.5 will cover the role of holding companies in Mergers and Acquisitions. The purpose of the study, research objectives, research methodology, problem statements, and the hypothesis statement will be covered in sections 1.6 to 1.12. Section 1.13 will cover the major definitions and section 1.14 will elaborate on the information content. Ethical considerations, the contribution of the study, delimitations and limitations will be covered in sections 1.15 to 1.18. Lastly, there is a summary of the chapter.

1.2 MERGERS AND ACQUISITIONS – AN OVERVIEW

Mergers and Acquisitions can either be friendly or hostile. In Mergers and Acquisitions that are friendly, the management board of the targeted company would usually accept the acquisition and in some instances, seek it out (Sherman & Hart, 2006). However, hostile Mergers and Acquisitions occur when the bidding company’s management attempts to take control of the targeted company without consent or cooperation from the target company's board of directors.

As such, the difference between the acquisition price and the market price paid to the bidding company for the acquisition is referred to as an acquisition premium (Sherman & Hart, 2006). However, the process involves costs such as legal fees, technical accounting fees, and advisory fees, amongst others.

Mergers and Acquisitions or takeovers involve one company merging with another to create shareholder wealth (Sherman & Hart, 2006). There are various ways that a bidding company can acquire another company, known as the targeted company. Furthermore, Sherman and Hart (2006) illustrated that this could be achieved by the executive boards of directors of the two companies agreeing to combine, and then seeking shareholder approval. In principle, at least 50% of the shareholders of both the bidding company and targeted company have to agree to a merger or takeover.
In a **tender offer**, the bidding company would offer to buy the outstanding shares of the targeted company at a pre-determined price (Sherman & Hart, 2006). This would be communicated in the media, and to the shareholders. Furthermore, this method allows the bidding company to bypass management and the board of directors of the targeted company. However, the targeted company continues to operate or exist for as long as there are minority shareholders who refuse to tender the offer.

Sherman and Hart (2006) defined a **purchase of asset**, the targeted company will acquire the assets through a formal vote by the shareholders of the company being acquired. However, through a purchase of asset, the targeted company is acquired by its own management through a pool of investors, usually with a tender. After this type of transaction, the acquired company can discontinue its operations as a publicly traded entity and it becomes an unlisted company. These forms of Mergers and Acquisitions are usually referred to as **management buyouts**, if the current management is involved in the transaction, or a **leveraged buyout**, if the transaction is funded predominantly through debt (Sherman & Hart, 2006).

The final category is a **consolidation**. A new company will be created after a Mergers and Acquisitions, where both the targeted and bidding companies’ shareholders receive shares in the company (Sherman & Hart, 2006). The next section will focus on the role of the South African Competition Authority.

### 1.3 THE ROLE OF THE COMPETITION TRIBUNAL OF SOUTH AFRICA

The role of the Competition Tribunal of South Africa was established in terms of s26 (South African Competition, Act No. 89 of 1998). The primary role of the tribunal is to record and be independent of the other competition institutions. The main responsibilities of the Tribunal are to grant exemptions, and to grant or prohibit large or small mergers and acquisitions (with or without conditions).

The Competition Act (Act No. 89 of 1998), promotes and maintains the following objectives:

- To promote efficiency, adaptability and devolvement of the South African economy;
- To provide consumers with competitive processes and substitutes;
- To promote employment and advance the social and economic welfare of South Africans; and
- To ensure that small and medium-sized enterprises have an equitable opportunity to participate in the economy.
1.4 INTERNATIONAL MERGERS AND ACQUISITIONS TRENDS

Taking into consideration that there are limited empirical studies that focus on African listed companies, the present study will incorporate South African announcements to determine whether or not these transactions create value for the companies that are undertaking such transactions. Furthermore, the increasing trend towards Mergers and Acquisitions between companies from developed economies to developing economies creates a need to address the extent to which the acquisitions in this direction differ from cross border acquisitions (Gaughan, 2012).

In Figure 1.1 below, it is illustrated that the number of Mergers and Acquisitions have remained flat in South Africa post 1994. The significant increase in number between 1991 and 2001, were mainly driven by industries that were consolidating. The recent decline in Mergers and Acquisitions numbers between 2016 and 2018 indicates the end of the sixth Mergers and Acquisitions wave (Gaughan, 2012).

**Figure 1.1 Mergers and Acquisitions activity in South Africa post 1994**

![Graph showing Mergers and Acquisitions activity in South Africa post 1994](image)

Source: Bloomberg (2018)

To assist with understanding the importance of Mergers and Acquisitions in a growing economy, or in the world of business, the section below presents the international history of Mergers and Acquisitions since 1985.

Globally, Mergers and Acquisitions have taken place in waves – a time of high activity followed by a period of relatively few acquisitions. Six Mergers and Acquisitions waves have been identified between the periods of 1890 to 2003. These waves were stimulated by events outside Mergers and Acquisitions activities (Moeller & Brady, 2007).
Table 1.1 below illustrates the Mergers and Acquisitions waves that have occurred internationally since the 1980s.

**Table 1.1 International History of Mergers and Acquisitions since 1890’s**

<table>
<thead>
<tr>
<th>M&amp;A Wave</th>
<th>Period</th>
<th>Events coinciding with the beginning of waves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave 1</td>
<td>1890’s-1903</td>
<td>It began in the United States of America after the 1893 depression ended and continued until the 1903 stock market crash. This resulted in consolidations in many industries.</td>
</tr>
<tr>
<td>Wave 2</td>
<td>1910’s-1929</td>
<td>Growth of Mergers and Acquisitions, which was facilitated by cooperation among businesses as part of the Great War (World War I). The USA government did not enforce antitrust laws and encouraged businesses to operate.</td>
</tr>
<tr>
<td>Wave 3</td>
<td>1950’s-1973</td>
<td>Mainly conglomerate mergers that were unrelated.</td>
</tr>
<tr>
<td>Wave 4</td>
<td>1981-1989</td>
<td>Characterised by hostile takeovers in the USA. The trend resulted in a high number of leverage buy-outs using excessive debt.</td>
</tr>
<tr>
<td>Wave 5</td>
<td>1993–2001</td>
<td>Mainly characterised by consolidation of industries and globalisation, which includes the dot.com boom, which occurred during this wave.</td>
</tr>
<tr>
<td>New wave?</td>
<td>2003-?</td>
<td>Mainly includes horizontal and cross-border. It involves corporate scandals that resulted in laws and regulations such as the Sarbanes-Oxley Act in the United States of America. In South Africa, the introduction of the Competition Tribunal and implementation of the Competition Act, 1998 (Act No. 89 of 1998).</td>
</tr>
</tbody>
</table>

*Source: Gaughan (2012)*

Mergers and Acquisitions will therefore continue to have an important role in the world. According to Moeller and Brady (2007) most companies that have become global leaders have used Mergers and Acquisitions as part of their strategy, formerly known as inorganic growth.

Therefore, companies that are on a growth trajectory will eventually lose their market share to their competitors through the creation of economies of scale by providing superior returns to shareholders. Those that do not grow will become stagnant and lose customers, clientele and market share.
1.5 THE ROLE OF HOLDING COMPANIES IN MERGERS AND ACQUISITIONS

A holding company is a legal entity that has a controlling interest in one or more companies as a result of Mergers and Acquisitions activity. The primary role of a holding company is to own equity interest in other corporations. The key advantage of the structure of a holding company, which is not wholly owned through a subsidiary, is that leverage is achieved. This is obtained from having control of the subsidiary’s assets at a lower cost than if the organisation were to acquire 100% of the targeted outstanding equity.

Effective control is generally defined by acquiring less than 100% but more than 50% of a company’s equity. Effective control can also be defined as owning as little as 20% in instances where the target company has many shareholders owning equity stocks in the company.

The structure of the holding company can potentially create significant problems with taxation for the existing shareholders. Consolidations are used for reporting purposes, therefore, in reality; each subsidiary operates as its own legal entity resulting in profitable subsidiaries having to pay corporate taxes on operating profits. This also results in corporations having to pay taxes on dividends they receive from subsidiaries.

In 2007, the Minister of Finance announced that the Secondary Tax on companies was to be replaced with Dividend Tax (DT). The legislations around dividend tax can be found in sections 64D to 64N of the Income Tax Act, 1962. This Act was effective in 2012. The main objective of the dividend tax is to align the international norm with South African legislation where the recipient is liable for tax. This will ensure that South Africa is more attractive for international investments. In conclusion, dividend tax is imposed on company shareholders whilst, Secondary Tax on Companies (STC) was imposed on companies.

The following section will look at the problem statement and research question surrounding the Mergers and Acquisitions announcements for Johannesburg listed companies.
1.6 PROBLEM STATEMENT AND RESEARCH QUESTION

1.6.1 Background to the problem statement

All companies that are listed on the Johannesburg Stock Exchange (JSE) in South Africa are required to announce Mergers and Acquisitions transactions or intentions. In many instances, the announcements have an effect on share prices. In South Africa, the reaction of JSE listed companies to the announcements of Mergers and Acquisitions remains unknown or there is limited research that has been completed (Ndlovu, 2017). The process of understanding the unknown effects of Mergers and Acquisitions announcements in the South African context will provide a useful contribution to the current literature.

Major studies that have been conducted on the reaction of share prices, tend to focus on companies that are on the stock exchange (Ndlovu, 2017; Ball & Kothari, 1991; Booth, Broussard & Loist, 1997). As a result, there is little known regarding Mergers and Acquisitions announcements particularly for listed companies on the Johannesburg Stock Exchange. Therefore, this study analysed the impact that Mergers and Acquisitions announcements could have on bidding companies listed on the Johannesburg Stock Exchange. As a result, the research question below was developed.

1.6.2 Research question

The research question formulated:

- Are there any significant effects of Mergers and Acquisitions announcements on the share prices of companies listed on the Johannesburg Stock Exchange?

The above research question will be answered by evaluating Abnormal Returns (AR), Average Abnormal Returns (AARs), and Cumulative Average Abnormal Returns (CAARs) when a Mergers and Acquisitions announcement is released to market participants.

From the research question formulated above, the purpose of the study was developed and is critically discussed in the next section.
1.7 PURPOSE OF THE STUDY

The research was intended to extend the current literature on Mergers and Acquisitions announcements and the effect on share prices. The results from the present study will be beneficial to managerial stakeholders, investors, portfolio managers, and analysts. The evidence from this study of whether or not Mergers and Acquisitions announcements in developing markets such as in South Africa, do create abnormal returns, will cast some light on the efficient market hypothesis, to ascertain whether or not it supports or contradicts this. To achieve the purpose of the present study, the research objective and strategy presented below were formulated.

1.8 RESEARCH STRATEGY

The study was secondary in nature. The data was time-series in nature, and for comparative purposes, daily data was used in the study. The benefit of using data that was secondary in nature is that it was time series and cost saving, as this already exists.

1.9 RESEARCH OBJECTIVE

Previous research reflects that Mergers and Acquisitions announcements will directly or indirectly create abnormal returns (Kumar & Bansal, 2008). Therefore, the primary objective of this study was to understand, identify, and measure if Mergers and Acquisitions announcements create any abnormal returns to shareholders’ wealth for the bidding company, particularly for South African companies listed on the Johannesburg Stock Exchange.

To achieve the research objective, Bloomberg (2018) was used to extract daily share price data. The variables below were used to model the abnormal returns:

- The effect of the Mergers and Acquisitions announcements on the share prices of the Johannesburg Stock Exchange listed companies.
- In an event that there was an effect on the share price as a result of the Mergers and Acquisitions announcements, what was the size of the impact?
- Lastly, if there was an effect of the share price movements as a result of the Mergers and Acquisitions announcements, what was the direction of the impact? In other words, did the share price increase or decrease for the bidding company?
1.10 RESEARCH PARADIGM

This study followed a positivism approach with deductive reasoning. A positivism approach is a philosophy that evaluates an observable reality through configured research methods. Deductive reasoning entails producing a hypothesis and then testing the validity of this (Saunders, Lewis and Thornhill, 2009).

1.11 RESEARCH HYPOTHESIS

Classical event methodology was used where Abnormal Returns, Average Abnormal Returns, and Cumulative Average Abnormal Returns were used as a measure of understanding the effects of share prices on economic events. To determine whether or not Mergers and Acquisitions announcements had an effect on share prices for companies listed on the Johannesburg Stock Exchange, abnormal returns were needed to be greater or lesser than zero. As a result, the hypotheses below were developed:

**Null hypothesis (H0):** Abnormal returns generated on Mergers and Acquisitions announcement day **would be close to zero.**

**Alternative hypothesis (H1):** Abnormal returns generated on Mergers and Acquisitions announcement day **would not be close to zero.**

1.12 RESEARCH METHODOLOGY

Both the quantitative and qualitative data was presented in the study and is secondary in nature. This involved using raw data that existed previously. Therefore, the methodology was quantitative in nature and made use of secondary data. The data collection, analysis and sample criteria will be described in the following subsections.

1.12.1 Research design

Creswell (2009) defines a research design as a plan and procedure that the researcher follows in the research project. Therefore, the research design included broad assumptions, the method of collecting data, and the analysis. The process involved the assumptions, strategies of inquiry, and specific methods.
1.12.2 Population and setting

The study consisted of 38 Mergers and Acquisitions (M&A) announcements of the companies listed on the Johannesburg Stock Exchange between 1 January 2010 to 31 December 2017. In total, there were 76 observations considered in this study. The study analysed the reaction of the bidding companies’ share prices that were involved in the selected M&A announcements applying 15 days (-7, 0, +7), where 0 denoted the announcement day.

The study attempted to analyse if the abnormal returns (if any) generated by the announcements were statistically significant or not. The method was suitable as Corrado (2011) employed it to measure the number of abnormal returns (positive or negative) due to Merges and Announcements.

1.12.3 Research method

Creswell (2009) defines a research method as a major element that incorporates data collection, data analysis and interpretation. Therefore, these can either be qualitative, quantitative, and/or mixed methods. This present study followed a mixed method approach through the application of event study literature and the application of the event study methodology, which was originally implemented by Dolley (1993) in finance theory. The study applied a 15-day event period to examine whether or not abnormal returns existed during the announcement period under consideration (Lepetit, Patry & Rous, 2002).

The event study model was used to estimate the short-term impact on share prices on the occurrence of events such as dividends, mergers, and earnings announcements (Corrado, 2011). It was intended that a proposed theoretical prediction of the consequences of an event would be tested to ascertain whether the data was consistent with the theoretical predictions or not.

1.12.4 Data Collection and Analysis

The study was based on 38 Mergers and Acquisitions announcements in the South African market from 1 January 2010 to 31 December 2017. Data was collected from Bloomberg. Bloomberg (2018) is a global provider for financial news and information.
1.12.5 Sampling Strategy

The period of the Mergers and Acquisitions sample was between 1 January 2010 and 31 December 2017. Before analysis was performed, the data sets used were applied with the criteria mentioned below:

- **The acquisition company must have been listed on the Johannesburg Stock Exchange between the period January 2010 and December 2017;**
  - If a company was not listed during this period, the company was excluded from the sample.
- **The Mergers and Acquisitions announcement should have been approved by the Competition Tribunal of South Africa;**
  - If the Mergers and Acquisitions event was not approved by the Competition Tribunal of South Africa during this period, the bidding company was excluded from the sample.

1.13 INFORMATION THEORY

Event period or event window is defined as the time interval chosen for the study, where zero was the announcement date as per the Efficient Market Hypothesis (EMH). The announcement should incorporate the changes in the stock prices on the announcement date itself. Since these types of studies were used to analyse the violation of efficient market hypothesis (Peterson, 1989), the pre-event and post-event period was considered. The pre-event period was considered to determine any leakages of information and analyse the effects of the same. The post-event period was considered to determine any delay in the reach of the information being disseminated (Peterson, 1989).

1.14 ETHICAL CONSIDERATIONS

Ethical considerations that needed to be considered were how the data was sourced in completing the study but provided accurate and factual information. Necessary approval to use certain types of information was obtained from the relevant sources, although most of the data used was readily available to the public. Furthermore, the study does not plagiarise any part of another person’s written work. This study was approved by the School of Accountancy Research Ethics Committee (SAREC). The data that was obtained from external sources and had not been peer-reviewed, was checked for accuracy to ensure that false information was not used in the current study. Finally, raw data was sourced from creditable sources.
1.15 CONTRIBUTION OF STUDY

This study would be used to understand the various effects of Mergers and Acquisitions announcements on the bidding companies' share price movements and address the current literature gap, particularly in South African literature.

Through the analysis and interpretation of the effects of Mergers and Acquisitions announcements on companies listed on the Johannesburg Stock Exchange, this study will provide dynamic information to the field of study. The study would also provide investment professionals with a reference tool when making investment decisions, especially those that relate to Mergers and Acquisitions as they represent an economic event.

The study will be useful to senior management of Johannesburg Stock Exchange listed companies to provide conceptual understanding of how Mergers and Acquisitions announcements can affect share prices for the bidding company. Since Mergers and Acquisitions announcements are controlled by management, it is recommended that the announcements should be structured in a way that minimises risk in the form of share price volatility.

1.16 DELIMITATION OF THE STUDY

The sample of companies used was limited to those listed on the Johannesburg Stock Exchange for the period between January 2010 and December 2017. As a result, the market returns that were used as a point of reference in the study used different measurement periods such as 15 days (-7, 0, +7), where 0 denoted the announcement day.
1.17 LIMITATIONS OF THE STUDY

The study had several limitations, which opens the way for further research in this area. The report acknowledged the following limitations:

- The study was focused on companies listed on the Johannesburg Stock Exchange between January 2010 and December 2017. All mediums of disclosure other than public announcements, were excluded. Only those announcements recorded on SENS were considered.
- The sampling method used was non-probabilistic. The study was therefore unable to test external validity. Conclusions could be drawn only in relation to the sample.
- The study focussed solely on the South African market and excluded other markets (i.e. emerging African markets such as Ghana or Nigeria).
- The study only focused on the announcement date approved by the Competition Tribunal of South Africa. Only the JSE ALSI was used as a benchmark (beta) and 38 selected companies listed on the Johannesburg Stock Exchange.
- The study focused essentially on the share price movement in relation to the public announcement of Mergers and Acquisitions. The study did not separate ‘good’ from ‘bad’ announcements. As a result, the bad announcements seem to have outweighed all the good announcements.

1.18 SUMMARY

This chapter emphasised the background of the research, and the effects of Mergers and Acquisitions announcements on companies listed on the Johannesburg Stock Exchange. The chapter briefly outlined the history of Mergers and Acquisitions, the problem statement and research question, the purpose of the study, the research methodology, any limitations, and the underlying assumptions of the study. Lastly, the chapter concluded with the limitations of the study and its significance.

The next chapter will address the review of the literature associated with Mergers and Acquisitions announcements.
1.19 CHAPTER OUTLINE

Table 1.2 Summary of Chapters and Content

<table>
<thead>
<tr>
<th>CHAPTER</th>
<th>CONTENT</th>
</tr>
</thead>
</table>
| Chapter 1: | Contextualisation and background to the study  
This chapter introduced the purpose and the background of the study, which led to the research problem. |
| Chapter 2: | Literature Review  
In this chapter, literature was critically reviewed using current sources based on the research problem. |
| Chapter 3: | Research methodology  
In this section, techniques used to source the data were discussed. The validity of the data was considered and validated for accuracy |
| Chapter 4: | Analysis of results  
The results were presented in this chapter using statistical tools. These were critically discussed. The results would either validate what has been written or contribute to new knowledge. |
| Chapter 5: | Findings, conclusion and recommendations  
A conclusion was drawn from the results. Any further research, limitations, and recommendations were outlined in this section. |

Source: Author

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2 LITERATURE REVIEW

2.1 INTRODUCTION

In the previous chapter, the overall research was introduced and contextualised. In this chapter, relevant literature relating to Mergers and Acquisitions announcements will be critically discussed and reviewed.

The process of researching the effect of Mergers and Acquisitions announcements on share prices of bidding companies listed on the Johannesburg Stock Exchange, will be critical in creating value to the current literature. This will relate particularly to developing markets such as South Africa. Therefore, empirical testing of the effects of Mergers and Acquisitions announcements on share prices listed on the Johannesburg Stock Exchange will contribute to the existing knowledge within the South African research landscape.

Firstly, in this chapter the definitions of Mergers and Acquisitions will be cited. Secondly, in the chapter the market efficiency theory will be explained as well as the agency problem. Literature pertaining to Mergers and Acquisitions announcements, relevant to the research question, is reviewed. The emphasis is on abnormal returns that are as a result of Mergers and Acquisitions announcements within the South African landscape. This is followed by a brief contextual outline of capital markets integration. Lastly, a summary of the chapter is included at the end.

2.2 DEFINITION OF MERGERS AND ACQUISITIONS

A merger is a process where two companies become one when there is a willing buyer and a willing seller. The buyer usually pays a premium price depending on the terms of the purchase and the synergies involved (Gerdorff & Bacon, 2009).

The synergies generated from Mergers and Acquisitions transactions may include economies of scale, access to different markets, cost reduction, and reduction of competition through consolidation (DePamphilis, 2008). When information about a Merger or Acquisition is disclosed to the public, the participants in the capital markets would usually adjust their expectations. These would have reflected in the share prices of the companies involved.
2.3 HISTORY OF THE JOHANNESBURG STOCK EXCHANGE

The Johannesburg Stock Exchange (JSE) is the official financial exchange and operates in South Africa. The JSE is considered to be the most regulated stock exchange in the world due to its track record of being regulated in a manner that is considered best practice. The JSE was founded in 1887 to provide investors with the opportunity to trade in shares and other forms of commodities, on a consolidated and regulated platform (JSE, 2018).

The Johannesburg Stock Exchange is considered to be the most liquid African stock exchange market. However, the main disadvantages of listing on the Johannesburg Stock Exchange, in many instances, includes the cost associated with listing, as there is no alternative stock exchange market in South Africa (JSE, 2018). The introduction of an alternative market would most likely create favourable competition for the Johannesburg Stock Exchange.

There are over 400 companies listed on the Johannesburg Stock Exchange (JSE, 2018). Companies will usually opt to list on the stock markets because of the advantage of flexibility in raising equity capital rather than relying on debt finance (JSE, 2018). All the companies that are listed on the JSE platform enjoy benefits such as raising efficient capital either through a public or private auction, rights issue, public offering or preferential offer (JSE, 2018). For the purpose of this study, the JSE ALSI is used as proxy for the various companies under consideration.

The Johannesburg Stock Exchange All Share Index (ALSI) is the largest index by market capitalisation and consists of 149 listed companies (JSE 2018). Therefore, for the purpose of this study, the JSE ALSI is used as a benchmark and remains the most suitable proxy for beta. Table 2.1 below indicates the market capitalisation of the top 50 companies listed on the JSE ALSI including their market values at 31 December 2017 (Bloomberg, 2018).

Table 2.1 Market Capitalisation of Johannesburg Stock Exchange ALSI

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<th>No</th>
<th>Ticker</th>
<th>Full Name</th>
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<td>49,869,631,488.00</td>
</tr>
</tbody>
</table>

Source: Bloomberg (2018)

The next section provides the context to the regulations surrounding Mergers and Acquisitions in South Africa, as well as the overall operating market systems for both developing and developed jurisdictions.
2.4 REGULATION OF MERGER AND ACQUISITIONS IN SOUTH AFRICA

The Competition Act (1998) was formally enacted by the South African Competition Commission. It was introduced to the South African landscape to regulate all Mergers and Acquisitions transactions (Hourquebie, 2009). The Act serves to regulate the entire industry, ensuring control in the market and the critical review of all Mergers and Acquisitions activities.

The Mergers and Acquisitions regulatory body is primarily responsible for regularly monitoring all the Mergers and Acquisitions deals. It ensures that monopolistic trades or those unfair to the market or those that result in unethical behaviour, are identified and flagged. The Competition Authority has vested power through the South African Parliament to effectively stop and investigate any transactions that are considered not to be fair to market participants.

2.5 OPERATING OF THE MARKET SYSTEM

At the beginning of chapter 1, the Efficient Market Hypothesis (EMH) was introduced. According to the EMH theory, the price of the share price will reflect all the necessary information about the price (Malkiel & Fama, 1970). Therefore, the assumption is that rational investors are able to forecast the future cash flows of a share, the level of risk, and the appropriate discounting rate to the expected return of the shares.

Malkiel and Fama (1970) provided three different measures of efficiency in the market:

- The **weak-form efficiency**: the value of the shares reflects past events and therefore, future prices cannot be estimated.
- The **semi strong-form efficiency**: the market value of the shares will publicly reflect available information; therefore, arbitrage cannot exist in the market. However, abnormal gains or losses can only be achieved through information that is not available to the public.
- The **strong-form efficiency**: all information is reflected in the share price; therefore, abnormal returns do not exist.

There are other theories that seek to discuss the movements of future share prices. Firstly, the Random Walk Theory which was discussed by Kendall (1953). It ascertained that future price movements cannot be predicted. Secondly, the signalling theory, which provided empirical testing of the social problems under the conditions of imperfect information (Connelly, Certo, Ireland & Reutzel, 2011). The present study follows the approach of the Efficient Market Hypothesis, that information is publicly available.
The Efficient Market Hypothesis originated in the United Kingdom and United States of America in the early 1960’s and later on, in the rest of the world (Ball & Brown, 1968; Beaver, 1968; Fama, 1969). However, in the South African context, there is little literature that has been written or explored with regard to the Efficient Market Hypothesis theory, especially literature that focuses on companies listed on the Johannesburg Stock Exchange.

The next section will provide a brief outline of key empirical research that has been completed on the Efficient Market Hypothesis.

2.6 EFFICIENT MARKET HYPOTHESIS

As eluded to in the previous sections, the Efficient Market Hypothesis can be used as a guide to measure market reactions to Mergers and Acquisitions announcements. Moreover, it has been revealed that it is important for modern finance theory (Hussin, Ahmed & Ying, 2010). Fama, Fisher, Jensen and Roll (1969) discussed three forms of market efficiency, which includes the weak form, the semi-strong form and the strong form, which was briefly discussed in the previous section.

As a result, numerous observations have been directed to test the legitimacy of the market efficiency concept. Table 2.2 & 2.3 below provide information on the researchers that either supported the view that capital markets are efficient in their nature and information is readily available to the public domain or not. The results were presented by Mlonzi, Kruger and Nthoesane (2011).

Table 2.2 Empirical evidence that supports Capital Market being Efficient

<table>
<thead>
<tr>
<th>Empirical Results</th>
<th>Researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Markets are Efficient</td>
<td>Varamini and Kalash, 2008; Ozdemir, 2008; Asiri, 2008; Sharma, 2009; Jarrett, 2008; Lim, 2009; Abedini, 2009; Abdmoulah, 2010; Lim, Brooks and Hinich, 2008; Lim, Brooks and Kim, 2008; Jarrett and Kyper, 2006; Gajewski and Quéré, 2001; Christensen, Smith &amp; Stuerke, 2004; Chan, Lin and Strong, 2005; Cheon, Christensen &amp; Bamber, 2001; Kong and Taghavi, 2006; Dasilas, Lyroudi, &amp; Ginoglo, 2008; Lonie, Gunasekara &amp; Power, 1996; Sponholtz, 2008; Bhana, 1996; Mushidzi and Ward, 2004; Nthoesane, 2011.</td>
</tr>
</tbody>
</table>

Source: Mlonzi, Kruger and Nthoesane (2011)
Table 2.3 Empirical evidence that supports Capital Market being Inefficient

<table>
<thead>
<tr>
<th>Empirical Results</th>
<th>Researchers</th>
</tr>
</thead>
</table>

Source: Mlonzi, Kruger and Nthoesane (2011)

2.7 THE EFFICIENT MARKET HYPOTHESIS AND EVENT STUDIES

The event methodology approach is a well-accepted model for analysing efficient market hypothesis research. Bruner (2004) concluded that the use of an event study methodology can be useful in examining abnormal returns for the bidding company during the event period as a result of Mergers and Acquisitions announcements.

The present study defines abnormal returns as anomalies from the selected benchmark, which is the Johannesburg Stock Exchange All Share Index in this study. The forces driving a benchmark are largely defined in the capital pricing model (Bruner, 2004).

The present study is short term focused; therefore a 15 day-event period (-7, 0, +7), 0 denoting announcement day was applied to determine market efficiency (Lepetit et al., 2002). Bruner (2004) regards event studies as a forward-looking methodology as there is an assumption that future cash can be easily predicted by investors.

The main assumption that should be adopted when using the classical event study methodology is that the market is efficient, meaning that share prices reflect all the information and are not biased to new information (Fama, 1970). However, from a perspective of share price reaction to corporate announcements such as Mergers and Acquisitions, the abnormal return can deviate to the equivalent market mispricing (Fama, 1970).
2.8 COMPARING MERGERS AND ACQUISITIONS IN A DEVELOPED AND DEVELOPING MARKET

Researchers have cautioned that there are fundamental differences to consider when a comparison is made between Mergers and Acquisitions announcements in developed and developing markets. Most developed markets have well-integrated legal processes to protect the interests of shareholders and the welfare of customers. Therefore, this may differ from one country to another especially for those that suffer from a poor legal environment and weak enforcement of existing laws (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1999). Cultural and government differences between developed and developing markets also have an impact on the organisational structure of the company.

As per the observational work that was completed by Berger and Eli Ofek (1995), an increase in mergers may diminish investor wealth. Larry, Lang and Stulz (1994) discovered supporting proof for a direct relationship between market value and diversification in the United States of America. In addition, DeLong’s (2001) report proves that mergers can be an incentive for the acquiring company’s investors. Furthermore, Graham and Uliana (2001) discovered positive abnormal returns for 755 acquisitions between 1980 and 1995.

Furthermore, the results of Hung, Lee and Pai (2009) revealed that an increase in share price was a reaction to the earnings announcement on the JSE-ALtX. This is a test for market efficiency when 149 cap stock indices demonstrate a weak form of an efficient market. Therefore, these cultural differences should be considered in the evaluation process of a Mergers and Acquisitions transaction (Kwok & Tadesse, 2006). In this study, it was accepted that some of the results obtained to explain Mergers and Acquisitions announcements, particularly in South Africa, may not be appropriate when explaining Mergers and Acquisitions activities in developed markets, for example, countries like the United States of America (Ma, Pagan & Chu, 2009).

The following section provides a brief outline of the different theories on which Mergers and Acquisitions transactions are based.
2.9 THEORETICAL BASIS OF MERGERS AND ACQUISITIONS

Lubatkin (1983) identified a comprehensive list of the motives for Mergers and Acquisitions and grouped them into theoretical concepts widely used by most researchers today, namely:

2.9.1 The Internalisation theory

It is based on the theory that for an intangible asset to attract Mergers or Acquisitions, organisations should have already priced in the value of the intangible assets, making them profitable.

2.9.2 The Technological Competence theory

Technology has two prominent factors, one that can be codified and another that cannot. This constitutes technological competence.

2.9.3 The Transaction Cost and Process theory

An organisation may acquire a vital supplier to ensure that the input is readily available when needed for use, reduced cost of production, and reduced supply uncertainties.

2.9.4 The Efficiency theory

This concept held that acquisitions were executed to achieve synergies, which include reduced costs, operational synergy, and financial synergy.

2.9.5 The Monopoly theory

This theory viewed that acquisitions were executed to achieve market power.

2.9.6 The Empire – building theory

This theory is based on the assumption that managers maximise their personal interests, rather than that of their shareholders.

2.9.7 The Raider theory

This theory is based on wealth being transferred from the shareholders of a targeted company to the shareholders of the acquiring company.

2.9.8 Disturbance theory

This theory holds that the motives of acquisitions occur as a result of economic disturbances.
2.9.9 The Value-Destroying Theories

Empirical evidence has shown that some mergers do fail to create value for shareholders. It was proposed that somewhere between 60% and 80% are seen as failures (Puranam, Singh & Zollo, 2003). A significant amount of literature has been written on theories that destroy value that ought to have explained the situation. Mergers and Acquisitions will tend to have an impact on performance for both the targeted and bidding companies (Dickerson, Gibson & Tsakalotos, 1997).

The value-destroying theories can be broken into two areas of knowledge. The first being that the bidders’ management is rational and therefore, errors and losses are due to the unavailability of information, which are generally value-increasing intentions. The second outlines how rational management will maximise personal wealth, thereby not having a positive effect on the company value. Kariri (2013) further suggested that when a company decides not to merge while the competitors decide to merge for value creation, the targeted company is at risk to be the target of the next takeover.

2.9.10 The Value-Neutral Theories

Mergers may happen with the intention of no value creation. Targeted companies will sell when the offer is higher than the market value of the company. Under the hubris hypothesis, no value is created. The wealth is transferred from the buying participants to the target shareholders. Roll (1986) argues that the hubris hypothesis can be regarded as a null hypothesis of corporate Mergers and Acquisitions.

Under the Value-Neutral theories, the hubris hypothesis explains the corporate takeovers. Competitive offers have a distribution of value estimates, and the managers with an optimistic forecast will make a gain from the bidding process. Bidding companies that are explained by the hubris hypothesis will experience a premium when involved with a Mergers and Acquisitions transaction.

2.9.11 The Redistribution Theory

The theory of agency states that the interest of shareholders will not be aligned to those of management. Therefore, the separation of capital and control encourages management to have the best interest of shareholders. Some mergers occur as ‘empire buildings’ to expand on the side of the company (Mueller, 1969). Large companies will provide management with status and competitive salaries, which are positively related to the size of the company. In another instance, a larger company will offer more possibilities for emoluments and management failures, and part of this theory is the free cash flow.
2.10 CAPITAL MARKET INTEGRATION

Danbolt (1995) and McCann (2001) found that the degree of capital market integration may have a direct impact on abnormal returns. Additionally, Markides and Ittner (1994) found that international risk diversification can also be a motive for international Mergers and Acquisitions transactions. However, if international capital markets are perfectly integrated, information is readily available and market participants behave rationally, then no diversification gains can be generated from international mergers and acquisition activity.

Furthermore, economic disturbance provides companies with additional liquid reserves and the option to leverage buy-out for other companies at a slightly cheaper market value. Larger economic disturbance will usually result in waves, where there are a series of Mergers and Acquisitions activities that occur concurrently over a period of time (Papadatos, 2011). Past studies that have been observed have shown significant positive abnormal returns to the shareholders of the targeted company and insignificant negative abnormal returns for shareholders of the acquiring companies during a Merger & Acquisition announcement period (Campa & Hernando, 2004).

2.11 CAPITAL ASSET PRICING MODEL (CAPM)

The Capital Asset Pricing Model (CAPM), which can be used to estimate the rate of return of shares, has been criticised over the years. Empirical research completed by Fama and French (1992), Graham and Uliana (2001), Robins, Sandler and Durand (1999), Lee and Upneja (2008), and Drew and Veeraragavan (2002) where they argued that a single factor beta model will not provide insight into projecting a reasonable explanation for the cross-section of expected returns.

In this study, CAPM was used as the method of calculating expected returns, with the emphasis on the single-factor beta model. Although there are discussions that are not favourable to the CAPM model, it is widely considered as the most reliable as it is still used by researchers across the globe. Drew and Veeraragavan (2002) emphasised that the CAPM does not fully explain the cross-section of returns, however, up to 61% of the share returns can be as a function of their beta. Furthermore, Selim (2008) also emphasised that the risk-free rate model shows the importance of Islamic financing (namely, the absence of interest payment) and therefore supports the use of the model in the calculation of returns.
2.12 CAPITAL MARKETS REACTION TO CORPORATE ANNOUNCEMENTS

The event study methodology seeks to examine abnormal returns to investors over a prescribed period of time as a result of Mergers and Acquisitions announcements (Bruner, 2004).

Furthermore, abnormal returns are expectations that are lower than the benchmark. For the purpose of this study, the JSE All Share Index is ‘used’ as the benchmark to moderate abnormal returns. The drivers of the benchmark are usually dictated by capital markets and/or the capital asset pricing model (Bruner, 2004). Event studies are mostly regarded as forward looking, based on the assumption that the value of the share price represents the present value of expected cash flows to the investors (Bruner, 2004).

Capital markets react differently to business announcements, and particularly those significant announcements that impact on the line of earnings. In a market that is efficient, announcements will signal important information to the market. It is always assumed that the announcement information will be reflected in the share price variation (Hussin, Ahmed & Ying, 2010) as soon as it becomes readily available to the general public.

For example, earnings have become a measure that market participants use to see future earnings of the company (Aharony & Swary, 1980). There are arguments that earning announcements are important and can be used by businesses as a signalling tool about the future prospects of the business (Lonie, Power & Sinclair, 1996).

To elaborate, earnings announcements have become a critical part in evaluating market efficiency. Businesses will use information on earnings to communicate to shareholders and investors regarding the financial position of the company. There have been studies that have been conducted on the effect of earnings announcements on market changes, and the results have been contradictory. It was Cready and Gurun (2010) who found that lower earnings result in positive Cumulative Average Abnormal Returns (CAAR) and move market values higher.

The following section will focus on literature reflecting research undertaken that relates to Mergers and Acquisitions announcements by jurisdiction, and the relevant findings by other authors. The jurisdictions that will be examined include Nairobi, the United States of America, Argentina, Brazil, Chile, Canada, Singapore, Hong Kong and South Africa.
2.12.1 Mergers and Acquisitions announcements in Nairobi

Purpose of Study
Barasa (2015) conducted research with the objective of determining the effect of Mergers and Acquisitions announcements on share prices of companies listed on the Nairobi Stock Exchange (NSE). This research was for the period after 2006, after automation was adopted which changed the NSE landscape. The study consisted of nine (9) Mergers and Acquisitions announcements that took place between the period 2007 and 2014. The research methodology that Barasa (2015) adopted will be discussed in the next section.

Methodology adopted in the study
The financial data was secondary in nature and was obtained from the Nairobi Stock Exchange (NSE). The data comprised of daily share processes and benchmarks for 30 days before and 30 days after the Mergers and Acquisitions announcement. Therefore, a 60-day window event period was used as the NSE is a developing market with a limited number of listed companies.

The study followed an event study research methodology using the daily share price as a dependant variable. To measure abnormal returns, Barasa (2015) adopted the Capital Asset Pricing Model to test whether the companies generated abnormal returns. The following section provides the results, findings, and conclusion that was obtained for Mergers and Acquisitions in Nairobi.

Results, finding and conclusions
The results from the research that was completed by Barasa (2015) showed that there were variations in share prices immediately after Mergers and Acquisitions announcements. In some cases, the share prices went up before the actual announcement whereas in other instances the share prices went down.

Barasa (2015) concluded that Mergers and Acquisitions announcement in Nairobi had significant effects on the total accumulated share returns for the companies that were selected before and after the Mergers and Acquisitions announcement. As a result, Mergers and Acquisitions announcements had a positive impact on the selected companies listed on the Nairobi Stock Exchange (NSE) between the period 2007 and 2014.
2.12.2 Mergers and Acquisitions announcements in the United States of America

**Purpose of Study**

Uyagur, Meric and Meric (2014) investigated the market’s reaction to Mergers and Acquisitions announcements after the 2008 share price crash in the United States of America (USA). The study was aimed at providing additional literature on whether or not the acquirer in a domestic or a foreign jurisdiction would have generated abnormal returns. The study focused on market returns that were generated by USA targeted companies, either domestic or foreign, post the 2008 financial crisis.

The research methodology that was adopted by Uyagur et al. (2014) will be discussed in the next section.

**Methodology adopted in the study**

Data collection comprised of three steps. Firstly, listed United States of American companies were identified (either domestic or foreign) during 1 January 2011 to 31 December 2011. Secondly, the targeted companies were grouped based on the date of announcement. Finally, data was collected from COMPUSTAT and the Center for Research in Security Prices (CRSP). CRSP value-weighted index returns were used as a proxy for market returns or as beta. The final sample included 132 targeted companies using the event study methodology.

The study firstly examined Cumulative Average Abnormal Returns (CAARs) by comparing the mean values of the two groups and then testing the significance of the differences. Thereafter, the multivariate linear regression analysis was applied to further examine the targeted companies’ CAAR.

The following section will provide the results, findings, and conclusion that was obtained for Mergers and Acquisitions in the United States of America.

**Results, findings and conclusions**

The findings from Uyagur et al. (2014) indicated that post the 2008 financial crash, the USA targeted companies that earned significantly higher abnormal returns, if the acquiring company was domestic when compared to a foreign buyer. Furthermore, abnormal returns were also found to be significantly higher in non-friendly Mergers and Acquisitions post-2008.
2.12.3 Mergers and Acquisitions announcements in Argentina, Brazil and Chile

Purpose of Study
Simões, Soares, Klotzle and Pinto (2012) investigated the relationship between Mergers and Acquisitions announcements and the existence of abnormal returns for shares of companies in Argentina, Brazil, and Chile. The study applied the event study methodology to gather statistical evidence that market prices do not immediately adjust to new information. This confirmed that the market for Argentina, Brazil and Chile was semi-efficient.

The research methodology that was adopted by Simões et al. (2012) will be discussed in the next section.

Methodology adopted in the study
The two main research questions were whether the announcements of Mergers and Acquisitions are perceived as unexpected good news by the market, or whether the market reacts in an efficient way to such events. Before the announcement date, the study consisted of 170 observations, and 20 observations after the announcement. The data used in the research comprised of share prices from the period starting 1 October 1995 to 31 August 2008.

The data was collected from the Standard & Poor 500 databases. The estimation period started on day -170 and ended on day -21 and the event window went from day -20 until day +20. The final sample comprised of 14, 28, and 11 companies, respectively, for Argentina, Brazil, and Chile. The following section will provide the results, findings and conclusion that were obtained for Mergers and Acquisitions in Argentina, Brazil, and Chile.

Results, findings and conclusions
Simões et al. (2012) provided evidence that Mergers and Acquisitions announcements signalled value for all three countries with statistically significant results at a 95% level. Furthermore, it was discovered that Brazil tends to behave as a semi-strong Efficient Market Hypothesis, however, this was not the case for Chile and Argentina. Moreover, Chile performed more efficiently than Argentina; therefore, Mergers and Acquisitions announcements had a positive impact on the selected companies.
2.12.4 Mergers and Acquisitions announcements in Canada

Purpose of Study
The purpose of the study was to examine the short-term share price behaviour of the target company, post the Mergers and Acquisitions announcements in Canada between 2000 and 2007. Garcia (2009) applied the Efficient Market Hypothesis. The research methodology that was adopted by Garcia (2009) is discussed in the next section.

Methodology adopted in the study
The data was collected from the Bloomberg database. There were 144 companies included in the study. The period of the announcements was between 2000 and 2007. The sample included only Canadian corporations as targeted companies. All the acquiring companies were listed during the period under consideration and the transactions must have been completed.

The study applied the event study methodology to asset abnormal returns generation as a result of Mergers and Acquisitions announcements. Finally, the deal should have been at least greater than US$500 million. The event period was seven days; this entailed examining abnormal returns three days before and three days after the Mergers and Acquisitions announcement in Canada. The overall methodology was short term focused.

The following section provides the results, findings and conclusion that were obtained for Mergers and Acquisitions in Canada.

Results, findings and conclusion
Garcia (2009) found a positive reaction of Abnormal Returns (AR) when the acquiring company made a share transition as a form of payment for a Mergers and Acquisitions. This was one way that the market participants regarded the idea of using shares as a form of payment to increase liquidity for the acquiring company.

The positive abnormal returns were dependent on the Mergers and Acquisitions transaction within Canada, when the targeted and acquiring company belonged to the same industry group. Garcia (2009) concluded that investors in Canada may view diversification as a negative reaction due to integration problems that may have arisen after the transaction was finalised.
2.12.5 Mergers and Acquisitions announcements in Singapore

Purpose of Study
Van (2013) examined the impact of Mergers and Acquisitions announcements on shareholder wealth of the acquiring company in Singapore. The study applied the event study methodology to investigate the research problem. It focused on the share performance in response to Mergers and Acquisitions announcements using three intervals: pre-announcement period (from day 5 to day 2 prior to announcement day), announcement period (including one day prior to announcement day and the announcement day) and post-announcement period (from day 1 to day 5 after the announcement).

Van (2013) aimed at answering the following research questions:

- Will the Merger & Acquisitions announcements create or destroy shareholder wealth of Singapore acquirers in the short run?
- How is the relationship between the three factors (domestic/cross-border M&A, methods of payment, directions of mergers) and the performance of stocks?

The research methodology that was adopted by Van (2013) is discussed in the next section.

Methodology adopted in the study
The final sample consisted of 165 Mergers and Acquisitions announcements that took place between 2000 and 2007 in Singapore. The proxy that was used to calculate beta was the Singapore Stock Exchange All Share (SGP). Van (2013) applied the event study research methodology by calculating abnormal returns, average abnormal returns, and cumulated abnormal returns. The study adopted the Capital Asset Pricing model to test whether the companies generated abnormal returns or not. The following section provides the results, findings, and conclusion that were obtained for Mergers and Acquisitions in Singapore.

Results, findings, and conclusion
Van (2013) found that during the pre-and post-announcement period, there existed positive cumulative abnormal returns of 2.10% and 0.33% for the acquiring company. However, the results are not statistically significant. Therefore, the null hypothesis was rejected because there was no abnormal return generated from M&A announcements to acquirers for these two periods. As a result, Van (2013) concluded that Mergers and Acquisitions announcements can be perceived as good news to the acquiring company during the period of announcement from day -1 to day 0.
2.12.6 Mergers and Acquisitions announcements in Hong Kong

**Purpose of Study**
Liang (2013) examined the impact of Mergers and Acquisitions announcements for companies that were listed on the Hong Kong Stock Exchange between the period 2007 and 2012. The event study methodology was applied to measure whether abnormal returns existed on announcement day or not. There were 44 M&A announcements used in the study. Additionally, the paper examined the information value for Mergers and Acquisitions to investors to generate abnormal returns.

The research methodology that was adopted by Liang (2013) is discussed in the next section.

**Methodology adopted in the study**
The study tested if there was any impact of M&A announcements on share prices and whether shareholder wealth increased or decreased by applying the event study methodology. The announcements were for Hong Kong listed companies during the period 2007 and 2012. A total of 57 deals met the selection criteria. However, due to data limitations, the sample consisted of 44 transactions. The dependent variable in the study was the share price.

The event window was 21 days including the announcement day, and the day before and after the announcement. The key assumption in the study was that the Hong Kong market was efficient. The CAPM model was applied to test whether companies earn abnormal returns or not.

The following section provides the results, findings, and conclusion that were obtained for Mergers and Acquisitions in Hong Kong.

**Results, findings and conclusion**
The results showed that the cumulative abnormal return was positively correlated with the constant. Therefore, the Hong Kong market reacted positively to Mergers and Acquisitions announcements, where the t value is 5.17, which is statistically significant at a 5% level and the p-value is 0.122, which is greater than 0.05. Therefore, Liang (2013) rejected the null hypothesis.
2.12.7 Mergers and Acquisitions announcements in South Africa

**Purpose of Study**
Ndlovu (2017) investigated the reaction to the equities market to Mergers and Acquisitions announcements in South Africa. In addition, the effects of the form of payment were examined. An event period of 21 days was used. The main assumption in the study was that the South African market was efficient. All the companies used were listed on the Johannesburg Stock Exchange for the period 2003-2013.

The research methodology that was adopted by Ndlovu (2017) is discussed in the next section.

**Methodology adopted in the study**
The study applied the event study methodology with a 21-day event period (-10, +10). Financial data was collected for 34 acquisitions that occurred on the JSE, which consisted of a targeted company and the bidder within in the same industry.

Parametric t-tests were applied to the:
- significance of the cumulative average abnormal returns; and
- comparison of the before and after-announcement returns.

The following section provides the results, findings, and conclusion that were obtained for Mergers and Acquisitions in South Africa.

**Results, findings, and conclusions**
Ndlovu (2017) concluded that Mergers and Acquisitions announcements did not create any value for the shareholders of the bidding company pre-and-post the announcement period. Furthermore, The CAAR for the bidding companies was not significantly different from zero over the 21 days event window, thereby confirming that the announcements do not create any abnormal returns.

The following section (Table 2.4) provides a summary of the literature that was discussed above.
Table 2.4 Recent empirical evidence surrounding Mergers and Acquisitions announcements

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Jurisdiction</th>
<th>Event Window</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barasa (2015)</td>
<td>Nairobi</td>
<td>60-days event period</td>
<td>Mergers and Acquisitions announcements had a positive impact on the selected companies that are listed on the NYSE</td>
</tr>
<tr>
<td>Uyagur et al. (2014)</td>
<td>United States of America</td>
<td>Various event periods</td>
<td>Targeted companies earned significantly higher abnormal returns if the acquiring company was domestic when compared to a foreign buyer</td>
</tr>
<tr>
<td>Simões et al. (2012)</td>
<td>Argentina, Brazil and Chile</td>
<td>21-days event period</td>
<td>Provided evidence that Mergers and Acquisitions announcements do signal value for all three countries. Mergers and Acquisitions announcements had a positive impact on the selected companies.</td>
</tr>
<tr>
<td>Garcia (2009)</td>
<td>Canada</td>
<td>7-days event period</td>
<td>The positive abnormal returns were dependent on the Mergers and Acquisitions transaction being within Canada</td>
</tr>
<tr>
<td>Van (2013)</td>
<td>Singapore</td>
<td>11-days event period</td>
<td>During the pre-and post-announcement period, there was existence of positive cumulative abnormal returns of 2.10% and 0.33% for the acquiring company.</td>
</tr>
<tr>
<td>Liang (2013)</td>
<td>Hong Kong</td>
<td>21-days event period</td>
<td>The results showed that a cumulative abnormal return was positively correlated with the constant.</td>
</tr>
<tr>
<td>Ndlovu (2017)</td>
<td>South Africa</td>
<td>21-days event period</td>
<td>Mergers and Acquisitions announcements did not create any value for the shareholders of the bidding company pre- and-post the announcement period</td>
</tr>
</tbody>
</table>

Source: Author

The following section provides additional information from the literature that has been written on Mergers and Acquisitions announcements and their relevant findings.
### 2.13 OTHER MERGERS AND ACQUISITIONS ANNOUNCEMENTS FINDINGS

Table 2.5 below provides a summary of further research literature with results found when Mergers and Acquisitions announcements were being investigated. The studies below applied the Class Event Study in all cases.

**Table 2.5 Summary of a literature review on market reaction to Mergers and Acquisitions Announcements**

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Objective</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dodd and Ruback (1977)</td>
<td>Evaluated the abnormal returns during the time of takeover announcements.</td>
<td>The stakeholders of target and bidding companies received positive and significant returns from a successful takeover.</td>
</tr>
<tr>
<td>Asquith and Kim (1982)</td>
<td>Researched the returns to shareholders of the targeted company during the date of the initial announcement or on completion of a merger.</td>
<td>They found that the shareholders of the target companies had abnormal positive returns, while those of bidding companies did not.</td>
</tr>
<tr>
<td>Jensen and Ruback (1983)</td>
<td>Researched 13 studies on the abnormal returns surrounding takeover announcements.</td>
<td>They concluded that the average excess returns to the shareholders of target companies were between 30% and 20% for the successful mergers.</td>
</tr>
<tr>
<td>Wansley, Lane and Yang (1983)</td>
<td>Support significant abnormal returns of acquiring companies.</td>
<td>Showed a higher return for the targeted companies with cash transactions compared to those involved in shares as a form of payment.</td>
</tr>
<tr>
<td>Frank, Harris and Titman (1991)</td>
<td>Support significant abnormal returns of acquiring companies.</td>
<td>Found no evidence to support significant abnormal returns over a 3-year period after the date of the sale.</td>
</tr>
<tr>
<td>Kummer and Hoffmeister (1978); Dodd (1980)</td>
<td>Support significant abnormal returns of acquiring companies.</td>
<td>Found that the bidding companies enjoyed abnormal returns from the acquisitions.</td>
</tr>
<tr>
<td>Authors</td>
<td>Summary</td>
<td>Findings</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Travlos and Papaioannou (1991)</td>
<td>Impacts of method of payment on buying companies share return at the original date of announcement for an M&amp;A.</td>
<td>Found that the abnormal return of bidding companies on the announcement day were 1.3% for stock exchange and 0.8% for cash offers.</td>
</tr>
<tr>
<td>Brealey, Cooper and Kaplanis (1998)</td>
<td>Looked at a world-wide sample of 74 cross-border mergers from 1987 to 1992.</td>
<td>Substantial profits for target companies were followed with the aid of negligible abnormal returns for acquirers.</td>
</tr>
<tr>
<td>Suk and Sung (1997)</td>
<td>Evaluated the effects of the form of payment, form of acquisition and type of offer on target companies’ abnormal returns.</td>
<td>Found that there was no difference in premiums between share offers and/or cash offers.</td>
</tr>
<tr>
<td>Anand and Singh (2005)</td>
<td>Support significant abnormal returns of acquiring companies.</td>
<td>Found that either insignificant positive or negative returns for the bidding company shareholders that were considered insignificant.</td>
</tr>
<tr>
<td>Knapp, Gart and Chaudhry (2006)</td>
<td>Support significant abnormal returns of acquiring companies.</td>
<td>Found that the post-merger abnormal return of bank companies was significantly large when compared to other industries.</td>
</tr>
<tr>
<td>Rani, Yadav and Jain (2013)</td>
<td>Support significant abnormal returns of acquiring companies.</td>
<td>Found that either small positive or negative returns for the bidding company shareholders that were considered insignificant.</td>
</tr>
</tbody>
</table>

Source: Author
2.14 OTHER FORMS OF METHODOLOGIES THAT CAN BE USED TO MEASURE CORPORATE PERFORMANCE

The concept of corporate performance relates to the overall performance of the company. The process of evaluating the performance of a corporate company will generally rely on some of the output to a measure of input (Eilon, 1992). Corporate performance is measured using the share price of a company. The share price would usually reflect the investors' expectations about the company invested into and its performance (Wilson, Chacko, Shrader & Mullen, 1992).

2.14.1 Surveys of Executives

Executive surveys can be conducted by evaluating whether or not Mergers and Acquisitions activity will create value by examining managers' opinions. There are studies that present a sample of executives with a standardised questionnaire. The results are aggregated to yield a conclusion based on the outcome (Bruner, 2001).

Executive surveys have presented the following limitations and have been summarised by Bruner (2001):

- The perspectives that are presented by managers who are merely participants in the study do not reflect those of shareholders, and whose estimate may or may not create value.
- Executives may lean on historic data to predict the future. This does not hold true as the past does not necessarily represent the future outcome.
- Executive surveys have a low participation rate, between 2% and 10%, therefore this makes it open to criticism of generalisability.

2.14.2 Clinical and Accounting Studies

Clinical studies are suitable for one transaction or for a small sample of Mergers and Acquisitions activity to provide insight into abnormal results. This is achieved through in-depth interviews with executives and knowledgeable observations. However, accounting studies seek to evaluate the reported financial results of the acquirers' pre-and-post the Mergers and Acquisitions activity to determine how corporate performance changed (Bruner, 2004).

There have been several accounting research outputs completed on corporate performance for Mergers and Acquisitions in developing countries. Research that has been completed by Selcuk and Yilmaz (2011) and Kumar and Rajib (2001) revealed that Mergers and Acquisitions announcements had no effect on pre-and-post effect after the transaction.
In most cases, Mergers and Acquisitions studies that have been written about South Africa tend to focus mainly on pre-acquisition effects (Stevens, 2008; Wimberly & Negash, 2004) using Classical Event Study. However, Smit and Ward (2007) conducted corporate performance analysis using the Accounting Approach. Smit and Ward (2007) concluded that on average, Mergers and Acquisitions will not result in any significant abnormal return for the shareholder. However, a disadvantage of applying accounting measures for corporate performance, is the results can be affected by accounting policies and the risk of data manipulation.

2.15 SUMMARY

The chapter evaluated and reviewed the different forms of Mergers and Acquisitions and the reasons behind them. The Efficient Market Hypothesis (EMH) and the empirical evidence related to the EMH theory was discussed briefly. There are three forms to measure corporate performance pre-and-post a Mergers and Acquisitions transaction. These three different approaches have been considered in this study. The Classical Event Study was considered to be the most appropriate model for this study, to measure the effects of Mergers and Acquisitions pre-and-post an announcement. The survey of executives was not considered as it does not test hypothesis. Accounting studies were disregarded due to accounting limitations that may exist, for example, accruals and other assumptions in financial statements. The event study literature reviewed in this chapter, revealed that there will be gains or losses for investors pre-and-post Mergers and Acquisitions announcements as researched by Asquith and Kim (1982).

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3 RESEARCH METHODOLOGY

3.1 INTRODUCTION

In the previous chapter, literature relating to Mergers and Acquisitions announcements was considered. This chapter will discuss the applicable research methodology that was applied. Research methodology is the process of defining the research design as a master plan that indicates the processes, methods, and procedures for collecting information, evaluating and analysing information (Zikmund, Babin, Carr & Griffin, 2010). The research design process defined and explained the methods used to analyse the data to answer the research question. A broad format was introduced, how the analyses and tests were applied to the data.

3.2 PROBLEM STATEMENT

The problem statement described the motives and purpose for undertaking the study (Hofstee, 2006). The main purpose of this study was to investigate the effect of Mergers and Acquisitions announcements on share prices of companies listed on the Johannesburg Stock Exchange (JSE). The process of understanding the unknown effects of Mergers and Acquisitions announcement in the South African context provided a remarkable contribution to the current literature. The main problem of the study was the ability to assess the effect of Mergers and Acquisitions announcements on capital markets and whether they create or destroy value for shareholders of the bidding company.

Major studies conducted with regard to how share prices react, tend to have focused on companies that are listed on the exchange (Ndlovu, 2017; Ball & Kothari, 1991; Booth, Broussard & Loist, 1997). As a result, there is little known regarding Mergers and Acquisitions announcements of listed companies in South Africa. This study analysed the impact that Mergers and Acquisitions announcements could have on companies listed on the Johannesburg Stock Exchange.

Through this approach, the aim was to breach the knowledge gap that currently exists in South African literature around the surroundings and the effect of Mergers and Acquisitions announcements.
3.3 RESEARCH STRATEGY

The research strategy was an overall framework used to guide the process of answering the research question (Saunders, Lewis & Thornhill, 2009). This study was secondary in nature. The data was time-series in nature and for comparative purposes, daily data was used. The benefit of using existing data that was secondary in nature, is that it is time series and cost effective. The main limitation of using data secondary in nature was that the researcher had no control of any data errors that may have existed (Mouton, 2001).

3.4 RESEARCH QUESTION

The event study methodology (Corrado, 2011) was used to measure the extent of abnormal returns (positive or negative) due to Mergers and Acquisitions announcements. The study attempted to reflect on the information value of a Mergers and Acquisitions announcements by calculating abnormal returns, if any.

The process of understanding the unknown effects of Mergers and Acquisitions announcements within the South African context would provide a phenomenal contribution to the current literature. The research question was as follows: Is there any significant effect on Mergers and Acquisitions on the share prices of the companies listed on the Johannesburg Stock Exchange?

The relationships investigated were:

- Abnormal returns generated on Mergers and Acquisitions announcement day will be close to zero; and
- Abnormal returns generated on Mergers and Acquisitions announcement day will not be close to zero.

3.5 RESEARCH OBJECTIVE

The primary objective was to understand, identify, and measure whether Mergers and Acquisitions announcements create any abnormal returns to the shareholders of the bidding or targeted company.
Therefore, the purpose was to determine the following:

- The effect of the Mergers and Acquisitions announcements on the share prices of JSE listed companies;
- In an event that there was an effect on the share price as a result of the Mergers and Acquisitions announcement, what is the size of the impact? and
- Lastly, if there was an effect on the share price movements as a result of the Mergers and Acquisitions announcement, what was the direction of the impact, in other words, did the share price increase or decrease for the bidding company?

3.6 RESEARCH METHOD

Creswell (2009) defines research method as a major element that incorporates data collection, data analysis, and interpretation. These methods can be divided into qualitative, quantitative, and/or mixed methods. This study followed a mixed method approach through the application of Classical Event Study. The application of the event study methodology in finance theory was originally implemented by Dolley (1933).

3.6.1 The Classical Event Study Methodology

The Classical Event methodology is a well-accepted model for analysing research on an efficient market hypothesis. The researchers below applied the event study methodology. These included: Aharony and Swary (1980), Dey and Radhakrishna (2008), Louhichi (2008), Kiger (1972), Bhana (1996), Lonie et al. (1996), Gajewski and Quéré (2001), Kong and Taghavi (2006), Dasilas et al. (2008), Das et al. (2008), Laidroo (2008), Bowman (1983), Cox and Weirich (2002), and Desilas, Lyroudi and Varnas (2006). The researchers, Mushidzi and Ward (2004) used the event study methodology to ascertain whether or not share prices respond to new information.

MacKinlay (1997) held that an event study approach would seek to evaluate the effect of a specific event on the value of a company. McWilliams and Siegel (1997) stated that an event study is a tool that helps to assess the financial impact linked with an ‘unanticipated event’. Das, Pattanayak and Pathak (2008) had a view that an event study evaluates the significance of the economic event on the market value of a company. Researchers such as Bowman (1983), and Brown and Warner (1985) provided a framework for conducting an event study. This study adopted the event study framework in answering the research question.
The event methodology was selected for this study to evaluate Mergers and Acquisitions announcement. Event period or event window is the time period that was selected for the study, where \( T_0 \) is the announcement date. According to the Efficient Market Hypothesis (EMH), the announcement should incorporate the changes in the share prices on the announcement date itself, but since these types of studies try to analyse the violation of efficient market hypothesis (Peterson, 1989), the pre-event and post-event period was considered.

The pre-event period in the event study approach sought to identify any leakages of information and evaluate the effects. However, the post-event period would assist in estimating any delay in information in the shares (Peterson, 1989). The data used to measure the effect of Mergers and Acquisitions announcements was between 1 January 2010 and 31 December 2017 of the publicly traded companies on the Johannesburg Stock Exchange. For each company involved in the M&A announcements, JSE ALSI was selected as a benchmark (beta) to reflect the market deviation.

The final sample consisted of 38 Mergers & Acquisitions announcements, which were selected on the basis of the target being publicly traded on the Johannesburg Stock Exchange. The sample selection was reached by selecting all Mergers and Acquisitions announcements during the mentioned period. Those announcements in which both the target and the bidder were not publicly traded in any of the markets in the South African region, were filtered out. This resulted in 38 announcements being selected, from a total of 76 observations. In instances where there was insufficient data available, the Mergers and Acquisitions transaction was excluded completely from the study.

The data of the announcement period, the share prices of the targeted companies involved in the Mergers and Acquisitions announcement in the event window period (i.e. from \(-t\) to \(+t\)), and the prices of the market indices, were recorded and analysed. The construction of abnormal returns was crucial. A company generally releases a Mergers and Acquisitions announcement either before the market knows about the transaction, with only a few exceptions of when the time was specified.

The study calculated the abnormal return using the Capital Asset Pricing Model (CAPM). The calculation of daily abnormal returns (ARs) was for the sample of companies selected in the days leading to the real announcement of the Mergers and Acquisitions. Daily ARs can be calculated using different models: market model; net-of-market return; net-of-characteristic matched portfolio (or matched company) return; or an equilibrium asset pricing model, such
as the CAPM. This study used the CAPM to calculate expected returns for each bidding company. The classical event study methodology was applied with the aim to determine whether there existed an abnormality on the share price that was associated with Mergers and Acquisitions announcements. Considering the reviewed literature for this study, the event study methodology was the most relevant for several reasons. Firstly, implementation of event study is based on stock prices, which reflect the true value of companies.

Therefore, results cannot be manipulated, such as accounting-based measures of profit, by choosing specific accounting procedures (McWilliams & Siegel, 1997). Secondly, measuring short-term value changes represent the best estimate of the expected present value, generated by the transaction, to the shareholders. Finally, the measured market-based returns are direct measures of value created for investors and dispose a forward-looking perspective of value creation as stock prices are assumed to present the value of expected future cash flows (Bruner, 2004).

Over the years, event studies have become popular within many disciplines. Therefore, the use of the classical event study methodology is prone to challenges like any other data analytics method used (Corrado, 2011). Some of the advantages and disadvantages of using the model are presented in Table 3.1 below. These results below were presented by Spais & Filis (2008) and Coetzee (2014).

**Table 3.1: Advantages and Disadvantages of event study methodology**

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>The model has the ability to take into consideration the impact of time.</td>
<td>The effectiveness of the model is dependent on the assumptions being made by the researcher.</td>
</tr>
<tr>
<td>Provides the researcher with a tool to evaluate the extent on shareholder wealth as a result of an announcement.</td>
<td>If the assumptions are violated, the results may be biased.</td>
</tr>
<tr>
<td>It is an important tool in Capital Market research as an instrument of testing market efficiency.</td>
<td>The research method is dependent on how the research is designed. As a result, some theories have been unjustifiably supported because of inappropriate techniques used.</td>
</tr>
<tr>
<td>The tool is short term focused around the event period. It is relevant for understanding corporate decisions that arise.</td>
<td>The event study examined managerial decision-making on the events such as Mergers and Acquisitions announcements, Dividend announcements, or earnings announcements.</td>
</tr>
</tbody>
</table>
However, there will always be difficulties in ensuring that the results are clearly reported and making sure that the interpretation of the results is done appropriately.

Source: Spais and Filis (2008) and Coetzee (2014)

The next section introduces the measures that were applied in the model and the results. The four basic measures used in this study include Abnormal Returns (AR), Expected Returns (ER), Average Abnormal Returns (AAR) and Cumulative Average Abnormal Returns (CAAR).

### 3.6.2 Abnormal Return (AR)

In the market model, the following measures $\alpha_i$ and $\beta_i$ were modelled with the application of regression analysis. The outcomes were that the assumptions were linked with the market model that $\epsilon_{it}$ has an expected value of zero. As a result, the following simple regression model was applied to calculate the returns on each share, taking into account the actual returns on the market, $R_{mt}$.

$$ER_{it} = \alpha_i + \beta_i R_{mt}$$

The abnormal returns (AR) were calculated using the following model:

$$AR_{it} = e_{it} = R_{it} - ER_{it}, \text{ Where: } R_{it} = \text{Actual returns (calculated on the daily closing prices of each share). In this study, the main assumption was that } \alpha_i = 0 \text{ and } \beta_i = 1; \text{ therefore, the basic model was: } AR_{it} = R_{it} - R_{mt}.$$  

### 3.6.3 Average Abnormal Return (AAR)

The abnormal returns of each share were averaged for each day surrounding the event day, which is -7 days prior and +7 days post the event day. The AAR was the average deviation of actual returns of a stock from the expected returns. The basic model below was applied to calculate the average abnormal returns (AAR’s):

$$AR_{it} = R_{it} - E(R_{it})$$

This aggregated the abnormal returns for all N shares to derive the average abnormal return at each time t. As such, idiosyncrasies in measurement is eliminated.
Where:
- \( I \) = the number of shares (companies) in the research;
- \( N \) = total number of shares (companies) in the portfolio; and
- \( t \) = the days surrounding the event announcement day.

### 3.6.4 Capital Asset Pricing Model (CAPM)

In this study, the market model was applied to measure any abnormal returns of the share prices being analysed. The market model was originally developed by Sharpe (1964). An Excel spreadsheet was used to save data and analyse it using statistical models such as test statistics (t-statistics) and probability values (p-values).

Sharpe’s model can be formulated as:

\[
ER_{it} = \alpha_i + \beta_i R_{mt} + \epsilon_{it}
\]

For \( i = 1 \ldots n \) Where: \( ER_{it} \) = Expected return on security \( "i" \) during time period \( "t" \);
- \( \alpha_i \) = Intercept of a straight-line or alpha coefficient of the share;
- \( \beta_i \) = beta coefficient of the share;
- \( R_{mt} \) = Expected return for the market portfolio during period \( "t" \); and
- \( \epsilon_{it} \) = Error term with a mean zero and a standard deviation which is a constant during time period \( "t" \).

### 3.6.5 Cumulative Average Abnormal Return

Generally, if the market is efficient, where information is available to the public, the Cumulative Average Abnormal Return (CAAR) should be close to zero. The formula used to calculate CAAR is:

\[
\sum_{t=1}^{t_2} AAR_t = CAAR_t
\]

In this study, the Cumulative Average Abnormal Return (CAAR) for each share was calculated by the sum of abnormal returns (ARs) over the 15-day event window. To obtain the cumulative mean abnormal return, the researcher aggregated the CAARs and then tested for statistical significance using a t-stat.
3.7 RESEARCH PARADIGM

The research paradigm is defined as the view or the perspective of the research problem presented by the researcher (Patton, 2009). This study followed a positivism approach with deductive reasoning. A positivism approach is a philosophy that evaluates an observable reality through configurated research methods. Then, deductive reasoning entails producing a hypothesis, followed by testing the validity of the hypothesis (Saunders et al., 2009).

3.7.1 Positivism

Positivism is described as an approach to research that is social. It seeks to relate to science in research of the social phenomena. Thereafter, it explains the issues that are facing societies (Maree, 2019). An approach that is independent from the data obtained and not influenced by any form of emotion with the data analysis, is defined as positivist (Coetzee, 2014).

3.7.2 Deductive reasoning

The process of deductive reasoning is moving from general assumptions to specific assumptions (De Vos, Strydom, Fouché & Delport, 2014). Furthermore, in a deductive direction, the researcher started with conceptualising the concepts that described logic and solutions and moved towards solid empirical evidence.

Saunders (2009) described a list of five deductive reasoning approaches that follow: Firstly, past research hypothesis tests need to be examined from existing literature. Secondly, the researcher needs to be able to explain the relationship amongst variables. Additionally, the hypothesis needs to be tested and the results must be objectively interpreted. Lastly, theory should be applied, based on the results of the study. The above approach was followed through collaboration of the research design and method to achieve the research objectives and resolve the research problem.

3.7.3 Descriptive and explanatory research

Saunders (2009) described descriptive research as a research method that can be applied to define certain events or a phenomenon. However, explanatory research will use quantitative data to interpret numerical relations between variables. Therefore, in this study descriptive and explanatory research was used to investigate the effects of Mergers and Acquisitions announcements on companies listed on the Johannesburg Stock Exchange.
3.8 TARGET POPULATION

The targeted population in this study was 38 Mergers and Acquisition announcements on the Johannesburg Stock Exchange using the JSE All Share index as a benchmark. In total, there were 76 observations. The period of the Mergers and Acquisitions sample was between 1 January 2010 and 31 December 2017. The JSE All Share index included 150 JSE-listed enterprises. It is the largest index in terms of size and overall value. The data analysis was conducted in a systematic manner to explore relationships that occurred or existed when Mergers and Acquisitions announcements were made to the general public.

3.9 SAMPLING STRATEGY

A sampling approach was applied in the study. The sampling strategy was non-probability and non-judgemental. A method that is purposive enables the researcher to select data from the population and apply the data in answering the research questions and achieving the objective of the study (Saunders, 2009).

3.10 DATA COLLECTION

The data used in the study was collected from Bloomberg, which is a major global provider of 24-hour financial news and information. The tool is one of the preferred providers of electronic data that is timely, accurate and complete. To achieve the objective of this study, daily stock data were used as a variable for event study analysis.

The literature and quantitative data presented in the study was secondary analysis. This involved using existing quantitative data. The study used secondary data in nature, of which 38 Mergers and Acquisition announcements in the South African market were analysed from 1 January 2010 to 31 December 2017. The study presented 76 observations in total.

Saunders (2009) pointed out that secondary data has its advantages. The use of secondary data in its current format may save time rather than the requirements of primary data. Additionally, secondary data was kept updated and safe. However, there are disadvantages associated with the use of secondary data when conducting a research study. For example, the researcher had no real control over the quality of the secondary data used.
3.11 SAMPLING SELECTION

The selection of the sample was completed in stages. Before analysis was performed, the data sets used were applied with the criteria mentioned below:

- The acquisition company had to be listed on the Johannesburg Stock Exchange between the period 1 January 2010 and 31 December 2017;
  - If a company was not listed during this period, the company was excluded from the sample.
- The Mergers and Acquisitions announcements should have been approved by the Competition Tribunal of South Africa;
  - If the Mergers and Acquisitions event was not approved by the Competition Tribunal of South Africa during this period, the company was excluded from the sample;
- There should have been a public Mergers and Acquisitions announcements. Companies with incomplete share price data were excluded from the sample daily share data and had to be available to meet the requirements of the empirical testing, which was ten trading days prior to and five trading days after the official announcement date.

After applying the sampling criteria presented above, a final sample of Mergers and Acquisitions used in this research consisted of 38 bidding companies. However, in total, there were 76 observations. Table 3.2 below represents the Mergers and Acquisitions announcements in the final sample.

Table 3.2 List of Mergers and Acquisitions Announcements used in the final sample

<table>
<thead>
<tr>
<th>Target Name</th>
<th>Acquirer Name</th>
<th>JSE Code: Bidder</th>
<th>Announcement Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attfund Retail Ltd</td>
<td>Hyprop Investments Ltd</td>
<td>JSE: HYP</td>
<td>06/12/2010</td>
</tr>
<tr>
<td>Fourteen High Quality Office</td>
<td>Redefine Properties Ltd</td>
<td>JSE: RDF</td>
<td>20/10/2011</td>
</tr>
<tr>
<td>Euroguard Insurance Co PCC Ltd,</td>
<td>MMI Holdings Ltd/South Africa</td>
<td>JSE: MMI</td>
<td>04/11/2013</td>
</tr>
<tr>
<td>Guardrisk Holdings Ltd</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property Name</td>
<td>Developer 1</td>
<td>Developer 2</td>
<td>Exchange</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>--------------------------------------</td>
<td>--------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Boardwalk Shopping Centre</td>
<td>Resilient REIT Ltd</td>
<td>JSE: RES</td>
<td>30/08/2011</td>
</tr>
<tr>
<td>Real Africa Holdings Ltd</td>
<td>Sun International</td>
<td>JSE: SUI</td>
<td>30/08/2011</td>
</tr>
<tr>
<td>Barnard Jacobs Mellet Holdings Ltd</td>
<td>FirstRand Ltd</td>
<td>JSE: FSR</td>
<td>21/06/2010</td>
</tr>
<tr>
<td>Alberton City Shopping Centre</td>
<td>Growthpoint Properties Ltd</td>
<td>JSE: GRT</td>
<td>07/03/2012</td>
</tr>
<tr>
<td>Indwe Broker Holdings Group Ltd</td>
<td>Santam Ltd</td>
<td>JSE: SNT</td>
<td>28/06/2010</td>
</tr>
<tr>
<td>Future Indefinite Investments 82 Pty Ltd,</td>
<td>Advtech Ltd</td>
<td>JSE: ADH</td>
<td>26/11/2014</td>
</tr>
<tr>
<td>Maravest Pty Ltd, Maramedia Pty Ltd,</td>
<td>Spear REIT Ltd</td>
<td>JSE: SEA</td>
<td>23/03/2017</td>
</tr>
<tr>
<td>Shetland Investments Pty Ltd</td>
<td>Ecsponent Ltd</td>
<td>JSE: ECS</td>
<td>01/12/2015</td>
</tr>
<tr>
<td>Instant Life Pty Ltd</td>
<td>Absa Group Ltd</td>
<td>JSE: NEWUSD</td>
<td>27/11/2015</td>
</tr>
<tr>
<td>IQuad Group Ltd</td>
<td>Sasfin</td>
<td>JSE: SFN</td>
<td>17/08/2012</td>
</tr>
<tr>
<td>ITS Holdings Pty Ltd</td>
<td>AdapIT Holdings Ltd</td>
<td>JSE: ADI</td>
<td>27/10/2010</td>
</tr>
<tr>
<td>Knife Capital Proprietary Ltd</td>
<td>African Dawn Capital Ltd</td>
<td>JSE: ADW</td>
<td>13/12/2013</td>
</tr>
<tr>
<td>PWC Musgrave Building</td>
<td>SA Corporate Real Estate Ltd</td>
<td>JSE: SAC</td>
<td>14/12/2012</td>
</tr>
<tr>
<td>Kagiso Securities Ltd</td>
<td>Vunani Ltd</td>
<td>JSE: VUN</td>
<td>09/11/2010</td>
</tr>
<tr>
<td>Mainsail Trading 55 Pty Ltd</td>
<td>JSW Energy Ltd</td>
<td>JSE: NEWUSD</td>
<td>16/04/2010</td>
</tr>
<tr>
<td>Jala Group Pty Ltd</td>
<td>Vunani Ltd</td>
<td>JSE: VUN</td>
<td>28/05/2010</td>
</tr>
<tr>
<td>Capital Hill Corporate Finance</td>
<td>Sasfin Holdings Ltd</td>
<td>JSE: SFN</td>
<td>18/06/2010</td>
</tr>
<tr>
<td>Centriq Insurance Co Ltd</td>
<td>Santam Ltd</td>
<td>JSE: SNT</td>
<td>20/01/2010</td>
</tr>
<tr>
<td>Stanley Security Solutions SA</td>
<td>EOH Holdings Ltd</td>
<td>JSE: EOH</td>
<td>08/12/2011</td>
</tr>
<tr>
<td>WIP Treasury Solutions Pty Ltd</td>
<td>Purple Group Ltd</td>
<td>JSE: PPE</td>
<td>09/09/2010</td>
</tr>
<tr>
<td>MMI Group Ltd</td>
<td>MMI Holdings Ltd</td>
<td>JSE: MMI</td>
<td>31/03/2010</td>
</tr>
<tr>
<td>Accounts &amp; receivables for credit cards</td>
<td>Absa Bank Ltd</td>
<td>JSE: NEWUSD</td>
<td>05/06/2012</td>
</tr>
<tr>
<td>Company Name</td>
<td>Seller Company</td>
<td>JSE Code</td>
<td>Date</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>-----------------------------------------------------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>Thembeka Capital Ltd</td>
<td>PSG Group Ltd</td>
<td>JSE: KST</td>
<td>28/11/2014</td>
</tr>
<tr>
<td>Retail centres/South Africa</td>
<td>Resilient REIT Ltd</td>
<td>JSE: RES</td>
<td>07/12/2015</td>
</tr>
<tr>
<td>Blue Strata Trading Pty Ltd</td>
<td>Investec Ltd</td>
<td>JSE: INL</td>
<td>26/06/2015</td>
</tr>
<tr>
<td>K2016085985 South Africa Pty Ltd</td>
<td>Hyprop Investments Ltd</td>
<td>JSE: HYP</td>
<td>16/07/2016</td>
</tr>
<tr>
<td>142 Edward Street/Tyger Valley</td>
<td>Spear Ltd</td>
<td>JSE: SEA</td>
<td>29/11/2016</td>
</tr>
<tr>
<td>Macquarie Equities South Africa Pty Ltd</td>
<td>Macquarie Group Ltd</td>
<td>JSE: MQG</td>
<td>03/09/2015</td>
</tr>
<tr>
<td>Gallet Group Employee Benefits Pty Ltd</td>
<td>Sygnia Ltd</td>
<td>JSE: SYG</td>
<td>01/02/2016</td>
</tr>
<tr>
<td>Vital Consult National Holdings Pty Ltd, Vital Consult Wealth Management Pty Ltd</td>
<td>Efficient Group Ltd</td>
<td>JSE: EFG</td>
<td>01/03/2017</td>
</tr>
<tr>
<td>Commercial &amp; industrial insurance brokerage business</td>
<td>PSG Konsult Ltd</td>
<td>JSE: KST</td>
<td>26/09/2017</td>
</tr>
<tr>
<td>BrightRock Holdings Pty Ltd</td>
<td>Sanlam Ltd</td>
<td>JSE: SNT</td>
<td>25/01/2017</td>
</tr>
<tr>
<td>Fulcrum Group Pty Ltd</td>
<td>Bidvest Group Ltd/The</td>
<td>JSE: BVT</td>
<td>21/12/2016</td>
</tr>
<tr>
<td>RMB Structured Insurance Ltd</td>
<td>Santam Ltd</td>
<td>JSE: SNT</td>
<td>23/08/2016</td>
</tr>
<tr>
<td>Snowball Wealth Pty Ltd, Midbrook Lane Pty Ltd</td>
<td>Conduit Capital Ltd</td>
<td>JSE: CND</td>
<td>11/08/2016</td>
</tr>
</tbody>
</table>

**Source: Author**

### 3.12 DATA ANALYSIS

The data analysis method applied in the study was based on the replication of other researchers and was slightly altered to cater for the needs of the study. The data analysis presented was associated with research that was done by Priyanka and Parvinder in 2014.

Therefore, the final sample consisted of 38 Mergers and Acquisition announcements in the South African market between the period 1 January 2010 and 31 December 2017, in the time when the bidding companies were listed on the Johannesburg Stock Exchange. The researcher analysed the reaction of the stock prices of companies involved in a Merger & Acquisition using 15 days event window (-7, 0, +7), 0 denoting announcement day. For each company involved in the Mergers and Acquisitions, the JSE All Share Index (ALSI) was selected as a primary benchmark to reflect the movement of the market.
3.13 HYPOTHESIS FORMULATION

The purpose of the study was to investigate whether there were any significant abnormal returns (whether positive or negative) related to the public announcement of a Mergers and Acquisitions transaction and to establish whether the efficient capital market hypothesis applied to the JSE ALSI market. The null hypothesis stated that cumulative average abnormal returns (CAAR) due to earnings announcements were not significantly different from zero.

\[ H_0 : \text{CAAR}_t = 0 \]

The alternate hypothesis stated that the CAAR on earnings announcements are significantly different from zero, where CAAR\(_t\) was the cumulative average abnormal return during the post transaction period or event window.

\[ H_1 : \text{CAAR}_t \neq 0 \]

The null and alternative hypothesis that was described and integrated, was used to moderate the process of answering the research question. The study used classical event methodology. Abnormal returns were used as a measure of understanding the effects of movements of share prices to economic events.

**Null hypothesis (H0):** Abnormal returns generated on Mergers and Acquisitions announcement day will be close to zero.

**Alternative hypothesis (H1):** Abnormal returns generated on Mergers and Acquisitions announcement day will not be close to zero.

Therefore, to achieve the objective of this research, a hypothesis was formulated. As a result, the hypothesis tested whether Mergers and Acquisitions announcements would have a significant impact on the share prices of companies listed on the Johannesburg Stock Exchange or not. The results will be presented in chapter 4.

3.14 DATA CLEANING

Bloomberg (2018) was used to collect daily data and contained different amounts and dates of different data sets. Where the data sets presented any blank values, the data set was removed, along with the corresponding date (if there was a holiday in the analysis, or the market was closed).
3.15 DATA VALIDITY AND RELIABILITY

The validity of the data used in the study is important. The source of the data used cannot be questioned; however, it can be challenged and interrogated for reasonability as inappropriate data could have led to inaccurate findings.

3.15.1 Validity of data

The measuring instrument applied in the study was to evaluate the data used. The validity of the measuring instrument is valid provided it measures the outcome anticipated (Leedy & Ormrod, 2010). The results produced must be in line with the intent observed. In order to validate the event period used, a 15-day event period (-7, 0, +7), 0 denoting announcement day was applied.

Saunders, Lewis and Thornhill (2009) proposed threats to the validity of data, and these included inter-alia:

- **History** - The data can still incorporate past event information not related to the study.
- **Testing** – The method of testing can be subjective and biased by the researcher.
- **Instrumentation** – The research should test what is intended to be achieved. Therefore, in this study it would test the impact of Mergers and Acquisitions announcements on share prices listed on the Johannesburg Stock Exchange.

3.15.2 Reliability of data

The method of selecting data instruments and data collection instruments are related to reliability. Therefore, the instrument and method applied should provide the outcomes that are similar when compared to other sources (Leedy & Ormrod, 2010). The data instrument that was used to collect and extract data was Bloomberg (2018), this is a financial software package that delivers data and analysis and is widely used in the financial and non-financial services industry.

Saunders, Lewis and Thornhill (2009) proposed four threats to the reliability of data collection methods and included, subject error, participation bias, error in the observation and observation bias. Most of the reliability issues stem from the collection of data but more likely from primary data rather than secondary data. Therefore, for the purpose of this study, data was secondary in nature and was sourced directly from Bloomberg, a trusted international data provider.
3.16 ETHICAL CONSIDERATIONS

Saunders, Lewis and Thornhill (2009) defined ethics as the appropriateness of the behaviour of the researcher with regard to the participants in the research, those who become the subject of the research, or those who are affected by the study and its results. For ethical considerations, the research proposal was submitted to the University of Johannesburg Ethics Committee for evaluation and approval before beginning the study. The companies that were chosen for the study were publicly available to anyone through the Competition Tribunal website.

3.16.1 Data

The ethical considerations included how the data was sourced and provided accurate and factual information. The necessary approval was obtained to use certain types of information from relevant sources, although most of the data used was readily available to the public.

3.16.2 Plagiarism

Furthermore, the study does not plagiarise any part of another person’s written work. The data that was obtained from external sources had not been peer-reviewed, however was checked for accuracy to ensure that false information was not used in the current study. Finally, statistical data were sourced from creditable sources like Bloomberg so that accurate analysis could be understood.

3.16.3 Significance of the study

The study was intentionally focused to attract market participants as well as academics who would be researching a similar problem statement. The participants that were foreseen to benefit from the study included South African banks, individuals employed by corporate finance companies, trading houses, regulators and different forms of business in any industry.
3.17 LIMITATIONS

There were four main limitations of the study. The following limitations and delimitations were presented in the study: Firstly, the study focused on companies listed on the Johannesburg Stock Exchange (JSE) between 1 January 2010 and 31 December 2017. Secondly, the study focused solely on the South African market and excluded other markets (i.e. emerging African markets like Ghana or Nigeria). Thirdly, the study only focused on announcement dates approved by the Competition Tribunal of South Africa. Lastly, the sample was limited to JSE listed companies and used the JSE All Share Index as a benchmark (beta). The final sample included 76 companies with only 38 Mergers and Acquisitions announcements being considered.

Furthermore, the method of research was not able to control the other factors that might potentially have caused abnormal returns that were unrelated to the Mergers and Acquisitions transactions. To isolate the impact of Mergers and Acquisitions announcements, the event period was 15-days, meaning that the announcements were evaluated from seven days before the actual announcement and seven days after, which may not be a reasonable assessment of a pre-and-post Mergers and Acquisitions announcement (Lepetit, Patry & Rous, 2002).

However, an increased time-period may not be viable as it will be difficult to assess the real return as there may be other factors that affect the share price. Therefore, the results of the study are only relevant for specifically selected companies and a generalised assumption should not be applied to all companies operating in South Africa.

3.18 SUMMARY

The main objective of this study was to determine if Mergers and Acquisitions announcements have an effect on share prices of companies listed on the Johannesburg Stock Exchange by applying the event study methodology to determine whether abnormal returns existed. The research methodology and the methods used to analyse the data were critically discussed in this chapter. The main methods used included Abnormal Negative Returns (ANR), Average Abnormal Returns (AAR), Abnormal Positive Returns (APR), and Cumulative Average Abnormal Returns (CAAR). The next chapter will analyse the data and present the findings. The study followed a quantitative research approach and the targeted population consisted of 38 companies listed on the JSE. Therefore, the research approach was accepted based on previous studies that have applied the same methodology to analyse pre-and-post Mergers and Acquisitions announcements.
4 ANALYSIS OF RESULTS

4.1 INTRODUCTION

In the previous chapter, the research methodology was introduced as well as its application. As stated at the beginning of the study, the aim of this research was to investigate the effect of Mergers and Acquisitions announcements on company share prices listed on the Johannesburg Stock Exchange (JSE). Therefore, to achieve this aim, an event study methodology was applied and was found to be the most appropriate.

Initially, the first set of data investigated the results of the abnormal returns (AR) for each of the 38 bidding companies’ announcements under consideration. For the purposes of this study, the bidding company had to be listed to apply the event study methodology. Then, the second set of data investigated the computation of Cumulative Average Abnormal Returns (CAAR). The sets of results retrieved from both the Average Abnormal Returns (AAR) and Cumulative Average Abnormal Returns (CAAR) were aimed at providing evidence of the Abnormal Returns (AR) calculation.

The following sections are: section 4.2 explores the description of the sample that was analysed and the high-level results; section 4.3 provides the detailed procedure that was followed for the data analysis and discusses the Abnormal Return (AR) for the 38 Mergers and Acquisitions announcements under consideration. The remaining sections encompass the hypothesis that was introduced in chapter 3, and the hypothesis formulated will be tested in this section. Lastly, the final section will provide a summary of the chapter.

4.2 DESCRIPTION OF THE SAMPLE

The study follows the classical event study methodology. The study encompassed daily share prices and different announcement dates. The final sample consisted of 38 companies listed on the JSE with 38 Mergers and Acquisitions announcement dates for the sample period between 1 January 2010 and 31 December 2017. A list of companies and announcements are provided in Table 4.1 as well as information relating to the share prices. The event window of 15-days (7 days before the announcement, the announcement day and 7 days after the announcement) was chosen and used in the present study for each company under consideration (Lepetit et al., 2002).
Table 4.1 below illustrates the results obtained from the analysis of the data. For each of the listed bidding companies, the Expected Return (ER), Abnormal Return (AR), and Cumulative Abnormal Return (CAAR) are illustrated below:

**Table 4.1 Data results obtained from M&A announcements between 2010 -2017**

<table>
<thead>
<tr>
<th>Target Name</th>
<th>Acquirer Name</th>
<th>JSE Code: Bidder</th>
<th>Announcement Date</th>
<th>ER</th>
<th>AR</th>
<th>CAAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attfund Retail Ltd</td>
<td>Hyprop Investments Ltd</td>
<td>JSE: HYP</td>
<td>06/12/2010</td>
<td>3%</td>
<td>-3%</td>
<td>-3%</td>
</tr>
<tr>
<td>Fourteen High Quality Office</td>
<td>Redefine Properties Ltd</td>
<td>JSE: RDF</td>
<td>20/10/2011</td>
<td>2%</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>Euroguard Insurance Co PCC Ltd, Guardrisk Holdings Ltd</td>
<td>MMI Holdings Ltd/South Africa</td>
<td>JSE: MMI</td>
<td>04/11/2013</td>
<td>1%</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>Boardwalk Shopping Centre</td>
<td>Resilient REIT Ltd</td>
<td>JSE: RES</td>
<td>30/08/2011</td>
<td>2%</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>Real Africa Holdings Ltd</td>
<td>Sun International Ltd/South Africa</td>
<td>JSE: SUI</td>
<td>30/08/2011</td>
<td>1%</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>Barnard Jacobs Mellet Holdings Ltd</td>
<td>FirstRand Ltd</td>
<td>JSE: FSR</td>
<td>21/06/2010</td>
<td>1%</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>Alberton City Shopping Centre</td>
<td>Growthpoint Properties Ltd</td>
<td>JSE: GRT</td>
<td>07/03/2012</td>
<td>2%</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>Indwe Broker Holdings Group Ltd</td>
<td>Santam Ltd</td>
<td>JSE: SNT</td>
<td>28/06/2010</td>
<td>4%</td>
<td>-4%</td>
<td>-4%</td>
</tr>
<tr>
<td>Future Indefinite Investments 82 Pty Ltd, Maravest Pty Ltd, Maramedia Pty Ltd, Shetland Investments Pty Ltd</td>
<td>Advtech Ltd</td>
<td>JSE: ADH</td>
<td>26/11/2014</td>
<td>1%</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>Company Name</td>
<td>Counterparty Name</td>
<td>Exchange Code/Currency</td>
<td>Date</td>
<td>Buy</td>
<td>Sell</td>
<td>Date</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>--------------------------</td>
<td>-------------------------</td>
<td>------------</td>
<td>------</td>
<td>------</td>
<td>------------</td>
</tr>
<tr>
<td>Blend Property 15 Pty Ltd</td>
<td>Spear REIT Ltd</td>
<td>JSE: SEA</td>
<td>23/03/2017</td>
<td>1%</td>
<td>-1%</td>
<td>2%</td>
</tr>
<tr>
<td>Clade Investment Management Pty Ltd</td>
<td>Ecsponent Ltd</td>
<td>JSE: ECS</td>
<td>01/12/2015</td>
<td>1%</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>Instant Life Pty Ltd</td>
<td>Absa Group Ltd</td>
<td>JSE: NEWUSD</td>
<td>27/11/2015</td>
<td>1%</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>IQuad Group Ltd</td>
<td>Sasfin Holdings Ltd</td>
<td>JSE: SFN</td>
<td>17/08/2012</td>
<td>1%</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>ITS Holdings Pty Ltd</td>
<td>AdaptIT Holdings Ltd</td>
<td>JSE: ADI</td>
<td>27/10/2010</td>
<td>1%</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>Knife Capital Proprietary Ltd</td>
<td>African Dawn Capital Ltd</td>
<td>JSE: ADW</td>
<td>13/12/2013</td>
<td>0%</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>PWC Musgrave Building</td>
<td>SA Corporate Real Estate Ltd</td>
<td>JSE: SAC</td>
<td>14/12/2012</td>
<td>1%</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>Kagiso Securities Ltd</td>
<td>Vunani Ltd</td>
<td>JSE: VUN</td>
<td>09/11/2010</td>
<td>0%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Mainsail Trading 55 Pty Ltd</td>
<td>JSW Energy Ltd</td>
<td>NSE: JSWERE</td>
<td>16/04/2010</td>
<td>1%</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>Jala Group Pty Ltd</td>
<td>Vunani Ltd</td>
<td>JSE: VUN</td>
<td>28/05/2010</td>
<td>0%</td>
<td>-2%</td>
<td>-3%</td>
</tr>
<tr>
<td>Capital Hill Corporate Finance</td>
<td>Sasfin Holdings Ltd</td>
<td>JSE: SFN</td>
<td>18/06/2010</td>
<td>1%</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>Centriq Insurance Co Ltd</td>
<td>Santam Ltd</td>
<td>JSE: SNT</td>
<td>20/01/2010</td>
<td>4%</td>
<td>-4%</td>
<td>-4%</td>
</tr>
<tr>
<td>Stanley Security Solutions SA</td>
<td>EOH Holdings Ltd</td>
<td>JSE: EOH</td>
<td>08/12/2011</td>
<td>1%</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>WIP Treasury Solutions Pty Ltd</td>
<td>Purple Group Ltd</td>
<td>JSE: PPE</td>
<td>09/09/2010</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>MMI Group Ltd</td>
<td>MMI Holdings Ltd</td>
<td>JSE: MMI</td>
<td>31/03/2010</td>
<td>1%</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>Accounts &amp; receivables for credit cards</td>
<td>Absa Bank Ltd</td>
<td>JSE: NEWUSD</td>
<td>05/06/2012</td>
<td>1%</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>Company Name</td>
<td>Acquirer Company</td>
<td>JSE Code</td>
<td>Date</td>
<td>% Increase</td>
<td>% Decrease</td>
<td>% Other</td>
</tr>
<tr>
<td>--------------</td>
<td>------------------</td>
<td>----------</td>
<td>------</td>
<td>------------</td>
<td>------------</td>
<td>--------</td>
</tr>
<tr>
<td>Thembeka Capital Ltd</td>
<td>PSG Group Ltd</td>
<td>JSE: KST</td>
<td>28/11/2014</td>
<td>2%</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>Retail centres/South Africa</td>
<td>Resilient REIT Ltd</td>
<td>JSE: RES</td>
<td>07/12/2015</td>
<td>2%</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>Blue Strata Trading Pty Ltd</td>
<td>Investec Ltd</td>
<td>JSE: INL</td>
<td>26/06/2015</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>K2016085985 South Africa Pty Ltd</td>
<td>Hyprop Investments Ltd</td>
<td>JSE: HYP</td>
<td>16/07/2016</td>
<td>4%</td>
<td>-4%</td>
<td>-4%</td>
</tr>
<tr>
<td>142 Edward Street/Tygervalley</td>
<td>Spear REIT Ltd</td>
<td>JSE: SEA</td>
<td>29/11/2016</td>
<td>6%</td>
<td>-6%</td>
<td>-6%</td>
</tr>
<tr>
<td>Macquarie Equities South Africa Pty Ltd</td>
<td>Macquarie Group Ltd</td>
<td>JSE: MQG</td>
<td>03/09/2015</td>
<td>1%</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>Gallet Group Employee Benefits Pty Ltd</td>
<td>Sygnia Ltd</td>
<td>JSE: SYG</td>
<td>01/02/2016</td>
<td>1%</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>Vital Consult National Holdings Pty Ltd, Vital Consult Wealth Management Pty Ltd</td>
<td>Efficient Group Ltd</td>
<td>JSE: EFG</td>
<td>01/03/2017</td>
<td>1%</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>Commercial &amp; industrial insurance brokerage business</td>
<td>PSG Konsult Ltd</td>
<td>JSE: KST</td>
<td>26/09/2017</td>
<td>2%</td>
<td>-2%</td>
<td>-2%</td>
</tr>
<tr>
<td>BrightRock Holdings Pty Ltd</td>
<td>Sanlam Ltd</td>
<td>JSE: SNT</td>
<td>25/01/2017</td>
<td>4%</td>
<td>-4%</td>
<td>-4%</td>
</tr>
<tr>
<td>Fulcrum Group Pty Ltd</td>
<td>Bidvest Group Ltd/The</td>
<td>JSE: BVT</td>
<td>21/12/2016</td>
<td>1%</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>RMB Structured Insurance Ltd</td>
<td>Santam Ltd</td>
<td>JSE: SNT</td>
<td>23/08/2016</td>
<td>4%</td>
<td>-4%</td>
<td>-4%</td>
</tr>
<tr>
<td>Snowball Wealth Pty Ltd, Midbrook Lane Pty Ltd</td>
<td>Conduit Capital Ltd</td>
<td>JSE: CND</td>
<td>11/08/2016</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Source:** Author

The following sections provide the dynamic reactions of each individual company that arose as a result of Mergers and Acquisitions announcements.
4.2.1 Summary of the effect of Mergers and Acquisitions Announcements

Summaries of the overall effect of Mergers and Acquisitions announcements to the bidding companies are presented in Tables 4.2, 4.3 and 4.4. The results are given below.

Table 4.2 Findings relating to abnormal returns (AR)

<table>
<thead>
<tr>
<th>Reaction to Mergers and Acquisitions announcement</th>
<th>Bidding company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive (+)</td>
<td>JSE: VUN, JSE: PPE and JSE: CND</td>
</tr>
</tbody>
</table>

Source: Author

Table 4.3 Findings relating to Average Abnormal Returns (AAR)

<table>
<thead>
<tr>
<th>Reaction to Mergers and Acquisitions announcement</th>
<th>Bidding company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive (+)</td>
<td>JSE: VUN, JSE: PPE and JSE: CND</td>
</tr>
</tbody>
</table>

Source: Author
<table>
<thead>
<tr>
<th>Reaction to Mergers and Acquisitions announcement</th>
<th>Bidding company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive (+)</td>
<td>JSE: VUN, JSE: PPE and JSE: CND</td>
</tr>
</tbody>
</table>

Source: Author

The following sections provide an analysis the AR, AAR, CAAR and ER returns in detail, based on the results presented above.

### 4.3 ANALYSIS OF DATA

A classical event study methodology was adopted for this study to address the problem statement and answer the research question. The event study followed a detailed pattern to calculate Abnormal Returns (AR), Average Abnormal Returns (AAR), and Cumulative Average Abnormal Returns (CAAR) to ascertain whether or not an event had an effect on the share price of the bidding company. Furthermore, this chapter incorporates the hypothesis testing in order to assist in answering the research question.

#### ANALYSIS OF ABNORMAL RETURNS (AR)

Firstly, the event study methodology analysed the data through calculating the abnormal returns surrounding the event date under consideration. As a result, this encompassed a detailed calculation of expected returns using the market model introduced by Sharpe (1964). The market model was discussed at length in the previous chapter.

The next sections present the results in relation to the Abnormal Returns (AR) computation for each announcement. For each Mergers and Acquisitions announcements presented, the results are discussed individually using bar-charts to elaborate the outcome of a 15-day event
period. All the bidding companies are listed on the Johannesburg Stock Exchange and are recognised by a unique JSE code.

4.3.1 Hyprop Investments Ltd (JSE: HYP)

The Abnormal Returns (AR) related to Hyprop Investments Ltd (JSE: HYP) pre-and-post are below. The event period used in the study is a 15-day event window. The event period under consideration is between the 09/01/2010 and 18/01/2010, and the results are illustrated graphically in Figure 4.1 presented below.

Figure 4.1 Abnormal returns (AR) for HYP for the period 18/01/2010 and 09/01/2010

As illustrated above in Figure 4.1, the overall abnormal return obtained for HYP is negative. However, the following days yielded interesting results:

- Before the announcement day, the share price for HYP had an average loss of 4% daily until the 06/01/2010. However, on announcement day, which was the 06/01/2010, the overall AR was down 6%. Thereafter, the AR improves for HYP post the M&A announcement.

4.3.2 Redefine Properties Ltd (JSE: RDF)

The results below are for a 15-day event window during the period 31/10/2011 and 10/10/2011 for RDF. Abnormal returns are discussed in this section. A graphical presentation of these results is demonstrated in Figure 4.2 and shows a negative trend.
As illustrated above in Figure 4.2, the overall abnormal return obtained for RDF is negative. However, the following days yielded interesting results:

- Over the 15-day event period, the average abnormal return for RDF was down 2%. On announcement day, the AR for RDF was -2%.
- The results obtained for RDF are similar to those of HYP.

### 4.3.3 MMI Holdings Ltd (JSE: MMI)

The results below are for a 15-day event window during the period 13/11/2013 and 23/10/2013 for MMI. Abnormal returns are discussed in this section. A graphical presentation (Figure 4.3) of these results is demonstrated below with a negative trend.

*Figure 4.3 Abnormal returns (AR) for MMI for the period 13/11/2013 and 23/10/2013*
As illustrated above in Figure 4.3, the overall abnormal return obtained for MMI is negative. However, the following days yielded interesting results:

- The overall average AR for MMI that was attained was -2%.
- However, the day before the announcements, the AR was -5%, thereafter there was a slight improvement on announcement day and the proceeding days.

4.3.4 Resilient REIT Ltd (JSE: RES)

The results below are for a 15-day event window during the period 08/09/2011 and 18/08/2011 for RES abnormal returns and are discussed in the following section. A graphical presentation (Figure 4.4) of these results is demonstrated below with a negative trend.

Figure 4.4 Abnormal returns (AR) for RES for the period 08/09/2011 and 18/08/2011

Source: Author

As illustrated above in Figure 4.4, the overall abnormal return obtained for RES is negative. However, the following days yielded interesting results:

- On announcement day, which was the 30/08/2011 RES attained negative AR of -2%.
- The results obtained for RES are similar to MMI, HYP, and RDF.
4.3.5 Sun International Ltd (JSE: SUI)

The results below are for a 15-day event window during the period 08/09/2011 and 18/08/2011 for SUI abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.5) of these results is demonstrated below with a negative trend.

Figure 4.5 Abnormal returns (AR) for SUI for the period 08/09/2011 and 18/08/2011

As illustrated above in Figure 4.5, the overall abnormal return obtained for SUI is negative. However, the following days yielded interesting results:

- On announcements day, SUI generated AR of -1%.
- The results obtained for SUI are similar to those of MMI, RES, HYP, and RDF.

4.3.6 FirstRand Ltd (JSE: FSR)

The results below are for a 15-day event window during the period 01/02/2010 and 11/01/2010 for FSR abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.6) of these results is demonstrated below with a negative trend.
As illustrated above in Figure 4.6, the overall abnormal return obtained for FSR is negative. However, the following days yielded interesting results:

- On announcements day, FSR generated AR of -1%.
- The results obtained for FSR are similar to those of MMI, RES, HYP, SUI, and RDF.

**4.3.7 Growthpoint Properties Ltd (JSE: GRT)**

The results below are for a 15-day event window during the period 16/03/2012 and 24/02/2012 for GRT abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.7) of these results is demonstrated below with a negative trend.

*Figure 4.6 Abnormal returns (AR) for FSR for the period 01/02/2010 and 11/01/2010*

![Graph showing abnormal returns for FSR](image)

*Source: Author*

*Figure 4.7 Abnormal returns (AR) for GRT for the period 16/03/2012 and 24/02/2012*

![Graph showing abnormal returns for GRT](image)

*Source: Author*
As illustrated above in Figure 4.7, the overall abnormal return obtained for GRT is negative. However, the following days yielded interesting results:

- On announcements day, GRT generated AR of -1%.
- The results obtained for GRT are similar to those of MMI, RES, HYP, FSR, and RDF.

4.3.8 Santam Ltd (JSE: SNT)

The results below are for a 15-day event window during the period 07/07/2010 and 15/06/2010 for SNT abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.8) of these results is demonstrated below with a negative trend.

![Figure 4.8 Abnormal returns (AR) for SNT for the period 07/07/2010 and 15/06/2010](source: Author)

As illustrated above in Figure 4.8, the overall abnormal return obtained for SNT is negative. However, the following days yielded interesting results:

- On announcements day, SNT generated AR of -1%.
- The results obtained for SNT are similar to those of MMI, GRT, RES, HYP, FSR, and RDF.

4.3.9 SAdvtech Ltd (JSE: ADH)

The results below are for a 15-day event window during the period 05/12/2014 and 14/11/2014 for ADH abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.9) of these results is demonstrated below with a negative trend.
As illustrated above in Figure 4.9, the overall abnormal return obtained for ADH is negative. However, the following days yielded interesting results:

- On announcements day, ADH generated AR of 0%.
- The results obtained for ADH are similar to those of MMI, GRT, SNT, RES, HYP, FSR, and RDF.

4.3.10 Spear REIT Ltd (JSE: SEA)

The results below are for a 15-day event window during the period 03/04/2017 and 13/03/2017 for SEA abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.10) of these results is demonstrated below with a negative trend.

Source: Author
As illustrated above in Figure 4.10, the overall abnormal return obtained for SEA is negative. However, the following days yielded interesting results:

- On announcements day, SEA generated AR of -2%.
- The results obtained for SEA are similar to those of MMI, ADH, GRT, RES, HYP, FSR, and RDF.

### 4.3.11 Ecsponent Ltd (JSE: ECS)

The results below are for a 15-day event window during the period 10/12/2015 and 19/11/2015 for ECS abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.11) of these results is demonstrated below with a negative trend.

**Figure 4.11 Abnormal returns (AR) for ECS for the period 10/12/2015 and 19/11/2015**

![Abnormal returns (AR) for ECS for the period 10/12/2015 and 19/11/2015](image)

Source: Author

As illustrated above in Figure 4.11, the overall abnormal return obtained for ECS is negative. However, the following days yielded interesting results:

- On announcements day, ECS generated AR of -1%.
- The results obtained for ECS are similar to those of MMI, ADH, GRT, SEA, RES, HYP, FSR, and RDF.

### 4.3.12 Absa Group Ltd (JSE: NEWUSD)

The results below are for a 15-day event window during the period 08/12/2015 and 17/11/2015 for NEWUSD abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.12) of these results is demonstrated below with a negative trend.
Figure 4.12 Abnormal returns (AR) for NEWUSD for the period 08/12/2015 and 17/11/2015

Source: Author

As illustrated above in Figure 4.12, the overall abnormal return obtained for NEWUSD is negative. However, the following days yielded interesting results:

- On announcements day, NEWUSD generated AR of -4%
- The results obtained for NEWUSD are similar to those of MMI, ADH, ECS, GRT, SEA, RES, HYP, FSR, and RDF.

4.3.13 Sasfin Holdings Ltd (JSE: SFN)

The results below are for a 15-day event window during the period 28/08/2012 and 07/08/2012 for SFN abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.13) of these results is demonstrated below with a negative trend.

Figure 4.13 Abnormal returns (AR) for SFN for the period 28/08/2012 and 07/08/2012

Source: Author
As illustrated above in Figure 4.13, the overall abnormal return obtained for SFN is negative. However, the following days yielded interesting results:

- On announcements day, SFN generated AR of -1%
- The results obtained for SFN are similar to those of MMI, NEWUSD, ECS, ADH, GRT, SEA, RES, HYP, FSR, and RDF.

4.3.14 Adaptit Holdings Ltd (JSE: ADI)

The results below are for a 15-day event window during the period 05/11/2010 and 14/10/2010 for ADI abnormal returns and are discussed in the following section. The graphical presentation of these results is demonstrated (Figure 4.14) below with a negative trend.

![Figure 4.14 Abnormal returns (AR) for ADI for the period 28/08/2012 and 07/08/2012](image)

Source: Author

As illustrated above in Figure 4.14, the overall abnormal return obtained for ADI is negative. However, the following days yielded interesting results:

- On announcements day, ADI generated AR of -8%
- The results obtained for ADI are similar to those of MMI, SFN, NEWUSD, ECS, ADH, GRT, SEA, RES, HYP, FSR, and RDF.

4.3.15 African Dawn Capital Ltd (JSE: ADW)

The results below are for a 15-day event window during the period 24/12/2013 and 03/12/2013 for ADW abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.15) of these results is demonstrated below with a negative trend.
As illustrated above in Figure 4.15, the overall abnormal return obtained for ADW is negative. However, the following days yielded interesting results:

- On announcements day, ADW generated AR of 0%.
- The results obtained for ADW are similar to those of MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA, RES, HYP, FSR, and RDF.

### 4.3.16 SA Corporate Real Estate Ltd (JSE: SAC)

The results below are for a 15-day event window during the period 25/12/2012 and 04/12/2012 for SAC abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.16) of these results is demonstrated below with a negative trend.

**Figure 4.16 Abnormal returns (AR) for SAC for the period 25/12/2012 and 04/12/2012**
As illustrated above in Figure 4.16, the overall abnormal return obtained for SAC is negative. However, the following days yielded interesting results:

- On announcements day, SAC generated AR of 0%.
- The results obtained for SAC are similar to those of ADW, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA, RES, HYP, FSR, and RDF.

4.3.17 Vunani Ltd (JSE: VUN)

The results below are for a 15-day event window during the period 18/11/2010 and 28/10/2010 for VUN abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.17) of these results is demonstrated below with a positive/flat trend.

Figure 4.17 Abnormal returns (AR) for VUN for the period 18/11/2010 and 28/10/2010

Source: Author

As illustrated above in Figure 4.17, the overall abnormal return obtained for VUN is positive. However, the following days yielded interesting results:

- On announcements day, VUN generated AR of 0%.
- The positive AR results obtained for VUN are contradictory to those of ADW, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA, RES, HYP, SAC, FSR, and RDF, which have a negative AR result.
4.3.18 JSW Energy Ltd (JSE: JSWENERGY)

The results below are for a 15-day event window during the period 27/04/2010 and 06/04/2010 for JSWENERGY abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.18) of these results is demonstrated below with a negative trend.

*Figure 4.18 Abnormal returns (AR) for JSWENERGY for the period 27/04/2010 and 06/04/2010*

As illustrated above in Figure 4.18, the overall abnormal return obtained for JSWENERGY is negative. However, the following days yielded interesting results:

- On announcements day, JSWENERGY generated AR of 0%.
- The results obtained for JSWENERGY are similar to those of ADW, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA, SAC, RES, HYP, FSR, and RDF.

4.3.19 Vunani Ltd (JSE: VUN1)

The results below are for a 15-day event window during the period 08/06/2010 and 18/05/2010 for VUN1 abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.19) of these results is demonstrated below with a negative trend.
As illustrated above in Figure 4.19, the overall abnormal return obtained for VUN1 is negative. However, the following days yielded interesting results:

- On announcements day, VUN1 generated AR of 0%.
- The results obtained for VUN1 are similar to those of ADW, JSW, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA, SAC, RES, HYP, FSR, and RDF.

4.3.20 Sasfin Holdings Ltd (JSE: SFN1)

The results below are for a 15-day event window during the period 29/06/2010 and 07/06/2010 for SFN1 abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.20) of these results is demonstrated below with a negative trend.

Source: Author
As illustrated above in Figure 4.20, the overall abnormal return obtained for SFN1 is negative. However, the following days yielded interesting results:

- On announcements day, SFN1 generated AR of 0%.
- The results obtained for SFN1 are similar to those of ADW, JSW, VUN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA, SAC, RES, HYP, FSR, and RDF.

4.3.21 Santam Ltd (JSE: SNT1)

The results below are for a 15-day event window during the period 29/01/2010 and 08/01/2010 for SNT1 abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.21) of these results is demonstrated below with a negative trend.

Figure 4.21 Abnormal returns (AR) for SNT1 for the period 29/01/2010 and 08/01/2010

Source: Author

As illustrated above in Figure 4.21, the overall abnormal return obtained for SNT is negative. However, the following days yielded interesting results:

- On announcements day, SNT1 generated AR of -4%.
- The results obtained for SNT1 are similar to those of ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA, SAC, RES, HYP, FSR, and RDF.

4.3.22 EOH Holdings Ltd (JSE: EOH)

The results below are for a 15-day event window during the period 17/02/2012 and 27/01/2012 for EOH abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.22) of these results is demonstrated below with a positive/flat trend.
As illustrated above in Figure 4.22, the overall abnormal return obtained for EOH is negative. However, the following days yielded interesting results:

- On announcements day, SNT1 generated AR of -2%.
- The results obtained for SFN1 are similar to those of ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA, SAC, RES, SNT1, HYP, FSR, and RDF.

4.3.23 Purple Group Ltd (JSE: PPE)

The results below are for a 15-day event window during the period 17/02/2012 and 27/01/2012 for PPE abnormal returns and are discussed in the following section. The graphical presentation of these results is demonstrated (Figure 4.23) below with a positive/flat trend. The results had a significant AR that was positive on announcement day, therefore, the results are considered to be positively related.
As illustrated above in Figure 4.23, the overall abnormal return obtained for PPE is positive. However, the following days yielded interesting results:

- On announcements day, PPE generated AR of 23%.
- The positive AR results obtained for PPE are contradicting to those of ADW, JSW, VUN1, Sfn1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA, SAC, RES, SNT1, HYP, FSR, and RDF, which have a negative AR result.
- The AR results attained are similar to those of VUN.

4.3.24 MMI Holdings Ltd (JSE: MMI1)

The results below are for a 15-day event window during the period 14/04/2010 and 18/03/2010 for MMI1 abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.24) of these results is demonstrated below with a negative trend.
Figure 4.24 Abnormal returns (AR) for MMI1 for the period 14/04/2010 and 18/03/2010

Source: Author

As illustrated above in Figure 4.24, the overall abnormal return obtained for MMI1 is negative. However, the following days yielded interesting results:

- The overall average for MMI1 that was attained was -1%.
- The results obtained for MMI1 are similar to those of ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA, SAC, RES, SNT1, HYP, FSR, and RDF.

4.3.25 Absa Bank Ltd (JSE: NEWUSD1)

The results below are for a 15-day event window during the period 14/06/2012 and 24/05/2012 for NEWUSD1 abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.25) of these results is demonstrated below with a negative trend.

Figure 4.25 Abnormal returns (AR) for NEWUSD1 for the period 14/06/2012 and 24/05/2012

Source: Author
As illustrated above in Figure 4.25, the overall abnormal return obtained for NEWUSD1 is negative. However, the following days yielded interesting results:

- On announcements day, NEWUSD1 generated AR of -3%.
- The results obtained for NEWUSD1 are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA, SAC, RES, SNT1, HYP, FSR, and RDF.

### 4.3.26 PSG Group Ltd (JSE: KST)

The AR results for KST on the M&A announcement period between the 09/12/2014 and 18/11/2014 are graphically illustrated in Figure 4.26 below.

*Figure 4.26 Abnormal returns (AR) for KST for the period 09/12/2014 and 18/11/2014*

As illustrated above in Figure 4.26, the overall abnormal return obtained for KST is negative. However, the following days yielded interesting results:

- On announcements day, KST generated AR of -2%
- The results obtained for KST are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, NEWUSD1, SEA, SAC, RES, SNT1, HYP, FSR, and RDF.

### 4.3.27 Resilient REIT Ltd (JSE: RES1)

The AR results for RES1 on the M&A announcement period between the 16/12/2015 and 25/11/2015 are graphically illustrated in Figure 4.27 below.
As illustrated above in Figure 4.27, the overall abnormal return obtained for RES1 is negative. However, the following days yielded interesting results:

- On announcements day, RES1 generated AR of -2%.
- The results obtained for RES1 are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, NEWUSD1, SEA, SAC, RES, SNT1, HYP, FSR, KST, and RDF.

4.3.28 Investec Ltd (JSE: INL)

The AR results for INL on the M&A announcement period between the 27/07/2015 and 06/07/2015 are graphically illustrated in Figure 4.28 below.
**Figure 4.28 Abnormal returns (AR) for INL for the period 27/07/2015 and 06/07/2015**

As illustrated above in Figure 4.28, the overall abnormal return obtained for INL is negative. However, the following days yielded interesting results:

- On announcements day, INL generated AR of -1%
- The results obtained for INL are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, NEWUSD1, SEA, SAC, RES, SNT1, HYP, FSR, KST, RDF, and RES1.

**4.3.29 Hyprop Investments Ltd (JSE: HYP)**

The AR results for HYP on the M&A announcement period between the 26/07/2016 and 05/07/2016 are graphically illustrated in Figure 4.29 below.

**Figure 4.29 Abnormal returns (AR) for HYP for the period 27/07/2015 and 06/07/2015**

Source: Author
As illustrated above in Figure 4.29, the overall abnormal return obtained for HYP is negative. However, the following days yielded interesting results:

- On announcements day, HYP generated AR of -4%.
- The results obtained for HYP are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, NEWUSD1, SEA, SAC, RES, SNT1, HYP, FSR, KST, RDF, INL, and RES1,

**4.3.30 Spear REIT Ltd (JSE: SEA1)**

The results below are for a 15-day event window during the period 08/12/2016 and 17/11/2016 for SEA1 abnormal returns and are discussed in the following section. The graphical presentation of these results is demonstrated (Figure 4.30) below with a negative trend.

*Figure 4.30 Abnormal returns (AR) for SEA1 for the period 08/12/2016 and 17/11/2016*

As illustrated above in Figure 4.30, the overall abnormal return obtained for SEA1 is negative. However, the following days yielded interesting results:

- On announcements day, SEA1 generated AR of -8%.
- The results obtained for SEA1 are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, NEWUSD1, SEA, HYP, SAC, RES, SNT1, HYP, FSR, KST, RDF, INL, and RES1.
4.3.31 Macquarie Group Ltd (JSE: MQG)

The AR results for MQG on the M&A announcement period between the 14/09/2015 and 24/08/2015 are graphically illustrated in Figure 4.31 below.

As illustrated above in Figure 4.31, the overall abnormal return obtained for MQG is negative. However, the following days yielded interesting results:

- On announcement day, MQG generated AR of -8%.
- The results obtained for MQG are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA1, NEWUSD1, SEA, HYP, SAC, RES, SNT1, HYP, FSR, KST, RDF, INL, and RES1.

4.3.32 Sygnia Ltd (JSE: SYG)

The AR results for SYG on the M&A announcement period between the 10/02/2016 and 20/01/2016 are graphically illustrated in Figure 4.32 below.
As illustrated above in Figure 4.32, the overall abnormal return obtained for SYG is negative. However, the following days yielded interesting results:

- On announcements day, SYG generated AR of -1%.
- The results obtained for SYG are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA1, NEWUSD1, SEA, HYP, SAC, RES, SNT1, HYP, FSR, KST, RDF, INL, MQG, and RES1.

### 4.3.33 Efficient Group Ltd (JSE: EFG)

The AR results for EFG on the M&A announcement period between the 10/03/2017 and 17/02/2017 are graphically illustrated in Figure 4.33 below.

**Figure 4.33 Abnormal returns (AR) for EFG for the period 10/03/2017 and 17/02/2017**

![Abnormal return graph for EFG](image)

**Source: Author**

As illustrated above in Figure 4.33, the overall abnormal return obtained for EFG is negative. However, the following days yielded interesting results:

- On announcements day, EFG generated AR of -1%.
- The results obtained for EFG are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA1, NEWUSD1, SEA, HYP, SAC, RES, SNT1, HYP, FSR, KST, RDF, INL, MQG, SYG, and RES1.
4.3.34 PSG Konsult Ltd (JSE: KST1)

The results below are for the 15-day event window during the period 05/10/2017 and 14/09/2017 for KST1 abnormal returns are discussed in the following section. The graphical presentation (Figure 4.34) of these results is demonstrated below with a negative trend.

*Figure 4.34 Abnormal returns (AR) for KST1 for the period 05/10/2017 and 14/09/2017*

As illustrated above in Figure 4.34, the overall abnormal return obtained for KST1 is negative. However, the following days yielded interesting results:

- On announcements day, KST1 generated AR of -1%.
- The results obtained for KST1 are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, ADH, GRT, SEA1, NEWUSD1, SEA, HYP, SAC, RES, SNT1, HYP, FSR, KST, RDF, INL, MQG, SYG, and RES1.

4.3.35 Sanlam Ltd (JSE: SNT1)

The AR results for SNT1 on the M&A announcement period between the 26/01/2017 and 05/01/2017 are graphically illustrated in Figure 4.35 below.

*Figure 4.35 Abnormal returns (AR) for KST1 for the period 26/01/2017 and 05/01/2017*
As illustrated above in Figure 4.35, the overall abnormal return obtained for SNT1 is negative. However, the following days yielded interesting results:

- On announcements day, SNT1 generated AR of -4%.
- The results obtained for SNT1 are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, KST1, ADH, GRT, SEA1, NEWUSD1, SEA, HYP, SAC, RES, SNT1, HYP, FSR, KST, RDF, INL, MQG, SYG, and RES1.

4.3.36 Bidvest Group Ltd (JSE: BVT)

The AR results for BVT on the M&A announcement period between the 30/12/2016 and 09/12/2016 are graphically illustrated in Figure 4.36 below.

**Figure 4.36 Abnormal returns (AR) for KST1 for the period 30/12/2016 and 09/12/2016**

As illustrated above in Figure 4.36, the overall abnormal return obtained for BVT is negative. However, the following days yielded interesting results:

- On announcements day, BVT generated AR of -4%.
- The results obtained for BVT are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, KST1, ADH, GRT, SEA1, NEWUSD1, SEA, SNT1, HYP, SAC, RES, SNT1, HYP, FSR, KST, RDF, INL, MQG, SYG, and RES1.
4.3.37 Santam Ltd (JSE: SNT2)

The AR results for SNT2 on the M&A announcement period between the 01/09/2016 and 11/08/2016 are graphically illustrated in Figure 4.37 below.

**Figure 4.37 Abnormal returns (AR) for SNT2 for the period 01/09/2016 and 11/08/2016**

![Abnormal return graph for SNT2](source: Author)

As illustrated above in Figure 4.37, the overall abnormal return obtained for SNT2 is negative. However, the following days yielded interesting results:

- On announcements day, SNT2 generated AR of -4%.
- The results obtained for SNT2 are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, KST1, ADH, GRT, SEA1, NEWUSD1, SEA, SNT1, HYP, SAC, RES, SNT1, HYP, FSR, KST, RDF, INL, BVT, MQG, SYG, and RES1.

4.3.38 Conduit Capital Ltd (JSE: CND)

The results below are for a 15-day event window during the period 22/08/2016 and 01/08/2016 for CND abnormal returns and are discussed in the following section. The graphical presentation (Figure 4.38) of these results is demonstrated below with a positive trend.
As illustrated above in Figure 4.38, the overall abnormal return obtained for CND is positive. However, the following days yielded interesting results:

- On announcements day, CND generated AR of 0%.
- The results obtained for CND are similar to those of MMI1 ADW, JSW, VUN1, SFN1, MMI, SFN, ADI, NEWUSD, ECS, KST1, ADH, GRT, SEA1, NEWUSD1, SEA, SNT1, HYP, SAC, RES, SNT1, HYP, FSR, KST, RDF, INL, BVT, MQG, SYG, SNT2, and RES1.

Figure 4.39 below provides a graphical trend of the Abnormal Return (AR) results obtained for the present study.

**Figure 4.39 Abnormal Returns (AR) Results Summary**

Source: Author
Figure 4.39 above illustrates graphically the results that relate to the average abnormal returns relative to the computations of each Mergers and Acquisitions announcement under consideration. The AR that was obtained used a 15-day event window; Figure 4.39 presented above shows the effects of the announcements graphically.

As shown in the graphical representation above (Figure 4.39), the overall effect of the AAR that was obtained for most companies had a negative reaction to the Mergers and Acquisitions announcement over the 15-day open cycle. However, JSE: VUN, JSE: PPE and JSE: CND reacted positively to the Mergers and Acquisitions announcements.

The results shown in Table 4.39 are further explained below:

- The results that have been obtained for the following binding companies, including JSE: VUN, JSE: PPE and JSE: CND are in line with the empirical research completed by Asquith and Kim (1982). They examined returns to shareholders of target companies around the date of the initial announcement and finalisation of a Mergers and Acquisitions.

- The conclusion was that the shareholders of target companies have average abnormal positive returns. Furthermore, empirical evidence from past research has found higher positive abnormal returns to the shareholders of the target company and statistically insignificant negative returns for the bidding company during the Merger & Acquisition announcement period (Campa & Hernando, 2004).

- Other targeted companies that yielded a negative AAR, the results above can be supported by Kummer and Hoffmeister (1978), and Dodd (1980) who concluded that bidding companies will experience positive abnormal returns on the Mergers and Acquisitions announcement date.

The following section provides the results that were obtained for Expected Returns (ER), Average Abnormal Returns (AAR) and lastly, the Cumulative Abnormal Returns (CAAR).

**ANALYSIS OF EXPECTED RETURNS (ER)**

The market model was used to measure abnormal returns of the share prices being analysed and the model was developed by Sharpe (1964). The 38 companies all yielded positive ER when computing the market return. Figure 4.40 below illustrates the expected returns that were obtained over a 15-day event period for each Merger & Acquisitions under consideration.
ANALYSIS OF CUMULATIVE AVERAGE ABNORMAL RETURNS (CAAR)

The CAAR for each individual share price is as a result of adding AAR over the 15-day event window. Figure 4.41 below presents empirical evidence that has been calculated for the CAAR on the Mergers and Acquisitions announcement day of the 38 respective targeted companies for the period between January 2010 and December 2017.

An observation of the results presented in Figure 4.41 illustrated that the Cumulative Average Abnormal Returns tend to stay significantly positive during the 15-day event window. However, although most of the companies that yield a negative reaction towards Mergers and Acquisitions announcements, JSE: VUN, JSE: PPE and JSE: CND reacted positively to Mergers and Acquisitions announcements.
The descriptive statistics relating to the CAAR, AAR, and ER calculation are summarised in Table 4.1. The next section relates to the hypothesis testing of the abnormal returns.
4.4 HYPOTHESIS TESTING

The purpose of the study was to investigate whether there were any significant abnormal returns (whether positive or negative) related to the public announcement of a Mergers and Acquisitions transaction and to establish whether the efficient capital market hypothesis applies to the JSE ASI market. The null hypothesis states that Cumulative Average Abnormal Returns (CAAR) due to earnings announcements is not significantly different from zero.

The null and alternative hypothesis that has been described and integrated was used to moderate the process of answering the research question. The study used classical event methodology, and abnormal returns were used as a measure of understanding the effects of share prices to economic events. Therefore, to determine whether or not Mergers and Acquisitions announcements have an impact on share prices for companies listed on the Johannesburg Stock Exchange, abnormal returns need to be bigger/smaller than zero.

The testing of hypotheses can be used in facilitating the process of answering the research question. When using the event study methodology, the economic results were observed by calculating abnormal returns (AR) that have been realised during the 15-day event window. Therefore, to ascertain whether Mergers and Acquisitions announcements have an effect on the share price of the JSE listed companies, an Abnormal Return has to be present. The Abnormal Returns realised had to either be greater/smaller than zero.

The following hypothesis was stated in Chapter 3:

**Null hypothesis (H0):** Abnormal returns generated on Mergers and Acquisitions announcement day will be close to zero.

**Alternative hypothesis (H1):** Abnormal returns generated on Mergers and Acquisitions announcement day will not be close to zero.

The results of the hypothesis testing will be presented in Table 4.5 and discussed in the following section.
4.4.1 Results of hypothesis testing

*Table 4.5 Hypothesis testing t-statistics and p-values*

<table>
<thead>
<tr>
<th>JSE Code: Bidder</th>
<th>t-stat</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
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<td>JSE: HYP</td>
<td>-0.0161</td>
<td>0.009228</td>
</tr>
<tr>
<td>JSE: RDF</td>
<td>-0.0018</td>
<td>0.000365</td>
</tr>
<tr>
<td>JSE: MMI</td>
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<td>0.000366</td>
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<tr>
<td>JSE: RES</td>
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<td>0.000391</td>
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<tr>
<td>JSE: SUI</td>
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<tr>
<td>JSE: FSR</td>
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</tr>
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</tr>
<tr>
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</tr>
<tr>
<td>JSE: ADH</td>
<td>-0.0232</td>
<td>0.000369</td>
</tr>
<tr>
<td>JSE: SEA</td>
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<td>0.000369</td>
</tr>
<tr>
<td>JSE: ECS</td>
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<td>0.000503</td>
</tr>
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<td>JSE: NEWUSD</td>
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</tr>
<tr>
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<tr>
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</tr>
<tr>
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</tr>
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<tr>
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<td>JSE: SNT</td>
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<tr>
<td>JSE: MMI</td>
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</tr>
<tr>
<td>JSE: NEWUSD</td>
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</tr>
<tr>
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<tr>
<td>JSE: SEA</td>
<td>-0.0030</td>
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<tr>
<td>JSE: MQG</td>
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<td>JSE: SYG</td>
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<tr>
<td>JSE: CND</td>
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<td>0.000380</td>
</tr>
</tbody>
</table>

Source: Author
The critical values that have been used for this study were 0.10, 0.05 and 0.01 to test the confidence intervals of 90%, 95%, and 99%. The overall t-stat of 1.9459% was greater than 1%, however still less than 10% and 5%, therefore, the null hypothesis stating that abnormal returns achieved in the Mergers and Acquisitions event period will not be significantly different from zero and will be rejected. Table 4.5 above also indicates the p-values for individual bidding companies under consideration for the present study. The overall p-value (0.000857711) of abnormal returns (AR) are less than the critical values of 0.10 and 0.05. The overall results indicate that the AR is statistically significant and continues to perpetuate the rejection of the null hypothesis.

Table 4.1 illustrated that the Cumulative Average Abnormal Returns (CAAR) over the 15-day event period are significantly negative for Mergers and Acquisitions announcements. The outcome as shown in Table 4.1 clearly illustrates empirical evidence for a significant negative association amongst cumulative abnormal returns on the days surrounding Mergers and Acquisitions announcements, for the selected companies. The following section presents a summary of the results obtained.

4.5 SUMMARY

The results in this chapter are as a result of the application of the classical event study methodology to the daily data collected. The results of the Abnormal Returns (AR), Average Abnormal Returns (AAR) and Cumulative Abnormal Returns (CAAR) have been critically discussed and implemented.

The opinion of the researcher is presented below. Although there were mixed results, most of the companies yielded a negative reaction towards Mergers and Acquisitions announcements, JSE: VUN; JSE: PPE; and JSE: CND reacted positively to the Mergers and Acquisitions announcements. The AR values for the companies under consideration were statistically significant, therefore a conclusion was reached that AR values for JSE listed companies are negatively statistically significant, as a result, the null hypothesis was rejected.

The next chapter presents the conclusions and recommendations that have been formulated through examining the results.
5 FINDINGS, CONCLUSION AND RECOMMENDATIONS

The main purpose of this study was to evaluate the effect of Mergers and Acquisitions announcement on the share price of selected JSE listed companies. Additionally, the study examined the importance of Merger & Acquisitions announcements on shareholder wealth and the information content theory. Therefore, this results in specific questions to be considered, if the Mergers and Acquisitions announcements have an effect on the share prices of JSE listed companies: what is the direction of the share post the announcements, which means, would a share price go up or down?

This chapter outlines and extends further on the results that were modelled from the application of a classical event study methodology to the selected sample of companies. Furthermore, the findings that were obtained from the results presented in the previous chapter will be discussed as to how the outcomes provided contribute to the current literature.

In the next sections of this chapter, the reasons for conducting the study are discussed. Thereafter, the overall findings that were obtained from the study are discussed, a summary of the conclusion is provided, then followed by the contribution of the study, the limitations of the study, and lastly, suggestions of any recommendations for further research.

5.1 REASON FOR CONDUCTING THIS RESEARCH

In the past, there have been studies that have been conducted on the topic of share price reactions as a result of Mergers and Acquisitions announcements, particularly in developed markets. These studies include, but are not limited to, the research that was conducted by Dichev and Piotroski (2001), Chen, Chou, & Lee (2011), Bruner (2004), Wansley, Lane and Yang (1983), Frank, Harris Titman (1991), Ruback (1977), Travlos and Papaioannou (1991), Campa & Hernando (2004), Dichev and Piotroski (2001) and Rani, Yadav and Jain (2013).

These studies are not South African based. Therefore, this particular study was useful in bridging the knowledge gap in the South African research landscape, particularly for companies listed on the Johannesburg Stock Exchange.
However, there has been no extensive research or study initiatives that have been completed to understand the effect on developing markets. Most studies attempt to cover specific industries such as the banking sector. The evaluation of Abnormal Return (AR), Average Abnormal Returns (AARs), and Cumulative Average Abnormal Returns (CAARs) to Mergers and Acquisitions announcements were illustrated graphically in the previously chapter. It is worth pointing out that the overall negative market reaction was observed for both Abnormal Returns and Cumulative Average Abnormal Returns. The results will be discussed in the sections to follow.

5.2 FINDINGS RELATING TO ABNORMAL RETURNS (AR)

The findings that were observed on the Abnormal Return computation on Mergers and Acquisitions (M&A) announcement revealed that there is a negative reaction for the bidding company to M&A announcements on announcement day. This indicated that the investors may have already perceived a decrease from the anticipated Mergers and Acquisitions announcement or the merger to be overly priced. There is research that concluded that shareholders of the targeted company had statistically insignificant negative returns for the bidding company during the M&A announcement period (Campa & Hernando, 2004).


Other empirical research that was completed by Seth, Song and Pettit (2002), Goergen and Renneboog (2004), Facio (2006), Darkow, Kaup and Schiereck (2008), Eije and Wiegerinck (2010) and Chari, Ouimet and Tesas (2010) treat the phenomena of Mergers & Acquisitions announcements as beneficial to the buying companies’ shareholders in the shorter term. However, only the results observed for JSE: VUN, JSE: PPE and JSE: CND were in line with the empirical research completed by Asquith and Kim (1982). Asquith and Kim (1982) examined returns to shareholders of target companies around the date of the initial announcement and finalisation of a Mergers and Acquisitions. The conclusion was that the shareholders of the targeted companies have average abnormal positive returns.
5.3 FINDINGS RELATING TO AVERAGE ABNORMAL RETURNS (AAR) AND CUMULATIVE AVERAGE ABNORMAL RETURNS (CAAR)

The Average Abnormal Returns (AAR) were conducted for this study. The results obtained for each individual company listed on the Johannesburg Stock Exchange had mostly a negative reaction to Mergers and Acquisitions announcements. The results below indicate a negative market reaction to share prices when there is Mergers and Acquisitions news.


Similar to the results obtained for AR, it was noted that with the AAR/CAAR calculation for JSE: VUN, JSE: PPE, and JSE: CND were in line with the empirical research completed by Asquith and Kim (1982). These results are supported by Barasa (2015), Uyagur et al. (2014), Simões et al. (2012), Garcia (2009), Van (2013) and Liang (2013) who found positive Average Abnormal Returns for the bidding company.

This present study observed an overall negative AAR and CAAR realised on the days that related to the Mergers and Acquisitions announcements. Therefore, the conclusion is that AAR will follow the same trend that is similar to the findings obtained for AR. Therefore, ARs and CAARs tend to stay significantly negative before and after the Mergers and Acquisitions announcement date.
5.4 FINDINGS RELATING TO HYPOTHESIS TESTING

The research hypothesis is defined as a unique process where the researcher begins with the generation of ideas or beliefs about a particular social problem regarding the properties of the study variables in the populations. Thereafter, these beliefs are then tested for credibility based on the collected data from the sample.

Null (H0) and alternative (H1) hypotheses were tested in this study to facilitate the process of answering the research question. To accept the null hypothesis, the p-value of the sample under consideration should deviate significantly from zero.

The results of the two hypotheses tested are below:

**Null hypothesis (H0):** Abnormal returns generated on Mergers and Acquisitions announcement day will be close to zero.

The results presented in Table 4.5 (Chapter 4) showed that the above hypothesis (H0) should be rejected. The current research observed Abnormal Returns were statistically significant during the Mergers and Acquisitions announcement event period window. The overall p-value of ARs were not greater than zero and indicated strong evidence against the null hypothesis.

**Alternative hypothesis (H1):** Abnormal returns generated on Mergers and Acquisitions announcement day will not be close to zero.

The results presented in Table 4.4 (Chapter 4) showed that the above hypothesis (H0) should be accepted. The current research observed Abnormal Returns were statistically significant during the Mergers and Acquisitions announcement event period window. The overall p-value of ARs was greater than zero and indicated strong evidence that is in support of alternative hypothesis.

The next section provides the conclusion and findings obtained from this research.
5.5 DISCUSSION OF THE FINDINGS

This section provides the findings observed from the present study. The results observed were achieved through the use of the classical event study method that was originally used in finance literature by Dolley (1933). Therefore, this study followed an event study, which was also applied by Corrado (2011). The classical event methodology is widely used in testing the economic effects on share price movements for companies that are listed on the Johannesburg Stock Exchange.

This study was undertaken to investigate the effect of Mergers and Acquisitions announcements on the share prices of listed companies on the Johannesburg Stock Exchange between the period 1 January 2010 to 31 December 2017. The proposed research question, as provided in chapter 1, was focussed on determining the economic effect of Mergers and Acquisitions announcements. The final sample consisted of 38 companies listed on the JSE, which then entailed 38 Mergers and Acquisitions announcements with a total of 76 observations.

Table 4.1 presented the data results obtained from Mergers and Acquisitions announcements between the period 2010 and 2017. Chapter 4 looked at Abnormal Returns, Average Abnormal Returns, and Cumulative Average Abnormal Returns on the Mergers and Acquisitions announcements dates. An overall negative market reaction was observed for Mergers and Acquisitions announcements, however, not all the companies considered, yielded a negative reaction.

Table 4.4 presented the hypothesis testing. Null (H0) and alternative (H1) hypotheses were tested to facilitate the process of answering the research question. The null hypothesis was rejected, and the alternative hypothesis accepted as the Abnormal Returns generated on Mergers and Acquisitions announcement day will not be close to zero.

A summary of the findings is presented in the next section.
5.6 CONCLUSION OF THE FINDINGS

The findings of this study are summarised in Table 5.1 and Table 5.2 below.

Table 5.1 ARs, AARs & CAARs summary of Results

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<thead>
<tr>
<th>Measure</th>
<th>Finding</th>
<th>Supporting Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal Returns((AR))</td>
<td>An overall negative AR was observed on the Mergers and Acquisitions</td>
<td>Results are supported by Campa and Hernando (2004). However, these contradict Asquith</td>
</tr>
<tr>
<td></td>
<td>announcement period between 1 January 2010 and 31 December 2017 for JSE</td>
<td>and Kim (1982) who found a positive effect. Dodd and Ruback (1977) found that target and</td>
</tr>
<tr>
<td></td>
<td>listed companies selected for the study.</td>
<td>bidding companies' stakeholders received positive and significant returns from a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>successful takeover. Other empirical research completed by Seth (2002), Goergen and</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and Chari (2010) treat the phenomena of Merger &amp; Acquisitions announcements as</td>
</tr>
<tr>
<td></td>
<td></td>
<td>beneficial to the buying companies' shareholders in the shorter term. Furthermore,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Barasa (2015), Uyagur et al. (2014), Simões et al. (2012), Garcia (2009), Van (2013),</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and Liang (2013) found positive abnormal returns for the bidding company.</td>
</tr>
<tr>
<td>Average Abnormal Returns (AAR)</td>
<td>The AAR had a similar trend to AR. An overall negative AR was observed</td>
<td>Chari et al. (2010) treated the phenomena of Merger &amp; Acquisitions announcements as</td>
</tr>
<tr>
<td></td>
<td>on the Mergers and Acquisitions announcements period between 1 January 2010</td>
<td>beneficial to the buying companies' shareholders in the shorter term. This has been</td>
</tr>
<tr>
<td></td>
<td>and 31 December 2017 for JSE listed companies selected for the study.</td>
<td>true for this study. Results are supported by Campa and Hernando (2004). However,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>these contradict Asquith</td>
</tr>
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</table>
the selected JSE listed companies.

and Kim (1982) who found a positive effect. Other empirical research that was completed by Seth et al. (2002), Goergen and Renneboog (2004), Facio (2006), Darkow et al. (2008), Eije and Wiegerinck (2010) and Chari (2010) treat the phenomena of Merger & Acquisition announcement as beneficial to the buying companies’ shareholders in the shorter term.

Cumulative Average Abnormal Returns (CAAR)

The AAR had a similar trend to AR. An overall positive AR was observed on the Mergers and Acquisitions announcement period between 1 January 2010 and 31 December 2017 for JSE listed companies. Results are supported by Campa and Hernando (2004). However, these contradict Asquith and Kim (1982) who found a positive effect. Kummer and Hoffmeister (1978) and Dodd (1980) found that the bidding companies enjoyed abnormal returns from the acquisitions. Additionally, Barasa (2015), Uyagur et al. (2014), Simões et al. (2012), Garcia (2009), User (2013), and Liang (2013) found positive abnormal returns for the bidding company.

Source: Author

As observed in Table 5.1 above, there is an overall negative abnormal return that was observed on the Mergers and Acquisitions announcement period for most of the companies under consideration in this study.
### Table 5.2 Hypotheses testing results

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<th>Measure</th>
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<th>Result</th>
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<td>Null hypothesis (H0)</td>
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</tr>
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<td>Alternative hypothesis (H1): Abnormal returns generated on Mergers and Acquisitions announcement day will not be close to zero.</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

**Source:** Author

Based on Table 5.2, the null hypothesis has been rejected and the alternative hypothesis has been accepted for this study.

### 5.7 CONTRIBUTION OF THE STUDY

The contribution of the study was to extend evidence on how share prices react to Mergers and Acquisitions announcements for a sample of companies listed on the Johannesburg Stock Exchange. As stated in the research question, there is a knowledge gap that exists in research, therefore this study sought to understand the various effects of Mergers and Acquisitions announcements on the value of a share price.

By analysing and interpreting the effects of Mergers and Acquisitions announcements on companies listed on the Johannesburg Stock Exchange, the study will contribute to bridging the knowledge gap in South African literature and providing dynamic information to the research landscape. The study also provides investment professionals with a reference tool when making investment decisions especially those that relate to Mergers and Acquisitions announcement as they represent an economic event.

The study will be useful for the management of companies in providing conceptual understanding of how Mergers and Acquisitions announcements impact on the value of share prices for both the bidder and targeted company. Since Mergers and Acquisitions announcements are controlled by management, it is recommended that the announcements should be structured in a way that minimises risk in the form of share price volatility.
5.8 RECOMMENDATIONS FOR FUTURE RESEARCH

Mergers and Acquisitions have developed over time. Most of the finance researchers have mainly focused on the issue of whether acquisitions are for creating shareholder value or wealth reduction or not. There is sufficient evidence that points out that while takeovers may have positive short-term returns for equity investors of the targeted company; this is a long-term result to shareholders of the acquired company (Chari et al., 2010).

Comprehensive literature by Agrawal and Jaffe (2000) pointed out that the aggregate of the abnormal returns accruing to acquiring companies in the years following an acquisition are negative or, at best, not statistically different from zero. An estimate of 35 – 45% of the bidding companies receive positive abnormal returns in the two-to-three-year period after the acquisition with a standard deviation order of 10% to the mean (Conn, 2001).

The following research areas have been suggested for further research:

- How aggressive buy outs affect corporate infrastructure and management of the targeted company. The approach should be tailored for developing African markets.
- This study focused on the overall JSE listed companies, a different approach can be taken to focus on industry.
- Lastly, why some companies paid too much for Mergers and Acquisitions, and the impact on equity shareholder value of the targeted company if a Mergers and Acquisitions is overpriced.
5.9 SUMMARY

This study was undertaken to observe the following, namely; to evaluate the effect of Mergers and Acquisitions announcements on the share prices of JSE listed companies; and to determine the direction of the share price pre-and-post the announcement using a 15-day event window (-7, 0, +7), 0 denoting announcement day. Therefore, to achieve the desired outcome, a classical event study methodology was implemented. The assumption was that abnormal returns arising on Mergers and Acquisitions announcements day will not be significantly different from zero. These results indicate new information becoming readily available to the market before the actual announcement and allowing the share price to quickly reflect new information.

It is important to note that the purpose of this study was not to determine why Mergers and Acquisitions announcements have some impact on the share prices of the Johannesburg Stock Exchange listed companies, but rather to investigate what the actual effect would be. The findings reveal the results attained indicate that Abnormal Returns, Average Abnormal Returns and Cumulative Average Abnormal Returns have a negative reaction to Mergers and Acquisitions announcements. These results are in line with Chari et al. (2010).

In conclusion, this study indicated that the Abnormal Return, Average Abnormal Return and Cumulative Average Abnormal Return follow a similar direction on announcement days, thereby resulting in a negative reaction of the bidding companies’ share price during the Mergers and Acquisitions over a 15-day event period (-7, 0, +7), 0 denoting announcement day. The results obtained were supported by the research that was completed by Campa and Hernando (2004) which contradicted those of Asquith and Kim (1982) who found a positive effect to share prices of listed companies.
REFERENCE LIST


Barasa, R. (2015). The impact of Mergers and Acquisitions announcements on share prices of companies listed at the Nairobi securities exchange. A research project submitted in partial fulfilment for the requirement of the degree of Master of Business Administration of the School of Business: University of Nairobi.


Liang, C. (2013). *The Impact of Mergers and Acquisitions Announcements on Firms’ Stock Performance: Evidence from Hong Kong Stock Market*. A research project submitted in partial fulfilment of the requirements for the degree of Master of Finance: Saint Mary’s University.


## APPENDICES

### Appendix A: Descriptive Statistics

<table>
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<tr>
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<th>$\varepsilon=$error</th>
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<td>0.00923</td>
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Source: Author